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CLINICAL MEDICINE

Vol. 30, No. 1 JANUARY, 1923

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The Pall of Grief

(With Apologies to Esop)

A JACKASS, having acquired, by attending school for a few years, the knowledge that 7 + 3 make 10, and learned the difference between a Bug and a Bugle, came to the conclusion that practically all available wisdom lay cribbed, cabined and confined within the osseous structure (as he termed it) which supported his auricular appendages. Having satisfied himself upon this point, and being possessed of a stentorian voice and a preternaturally solemn visage, he decided to go forth and point out to the rest of the inhabitants of the earth just how many kinds of a fool they were. Thereupon, he entered a city and began to bray loudly against the BAKERS. "These men," he said, "are merely quasi-qualified quibblers—not definite distributors of a dietetic item of demonstrable desirability. I know, for I sat in a pan of dough once. Bread, as these mongers make it, is merely a little flour, much water and a trace of yeast-born air, hence, they deceive you when they give you such an absurd combination in exchange for your good money and, were you not so exceedingly stupid and easily gulled, you would see this readily. Moreover, these Bakers know nothing of the origin of fire—nor, for that matter, are they familiar with the true nature of the Life Principle. Yet forsooth they offer you the 'Staff of Life.' Away with such Charlatans and Frauds! A bas les Bakers!"

Thereupon, the people being full-stomached and carried away by the great volume of sound proceeding from the Jackass, for the time being gave the Bakers the sardonic Ha! Ha! and their bread the go-by. But alas, very shortly they began to experience a feeling of emptiness and rumblings in their epigastric regions, which were only relieved by eating bread which the trustful bakers still produced.

Thereupon, the people communed together and, after passing a vote of confidence in the Bakers and their product, put a halter upon the Jackass and led him out to the city dump where he might possibly be of some use. "We prefer," they gently remarked to the dejected animal, "to be full fools to empty cadavers. You can die, if you want to; but, please! don't make so much noise doing it!"

Moral: Don't Believe All You Read in the Magazines!

G. H. C.

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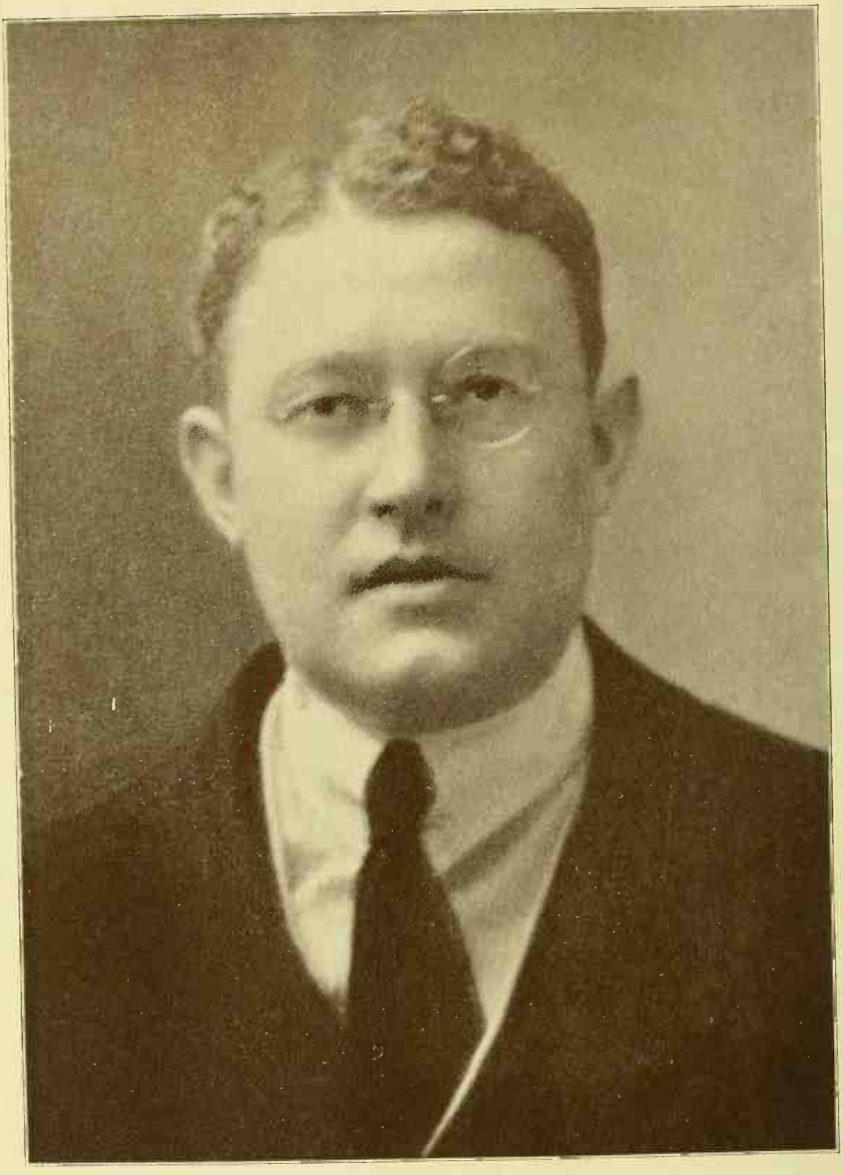

DR. GEORGE W. RAIZISS

DIRECTOR OF THE DERMATOLOGICAL RESEARCH LABORATORIES OF PHILADELPHIA

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 30, No. 1 JANUARY, 1923

Thirty Years Ago and Now

THIRTY years ago, our views concerning the origin and nature of diseases were deeply under the influence of the bacterial ideas. The specific bacteria determining the etiology of anthrax, diphtheria, tuberculosis, various septic disease, had been established definitely and the bacterial school attempted to dominate the theory of disease, although it found it difficult to establish itself in practice.

Still, it had been realized here and there that things were not as simple as had been believed but ten years earlier when Cohnheim had declared: "According to our present-day views, everybody in whose organism the tubercle bacillus finds a foothold becomes tuberculous." He represented that school of clinicians that was dominated almost absolutely by bacteriologists. This extreme view was opposed by the practitians and the clinicians who could not be made to accept the idea that infectious diseases followed inevitably after an infection had taken place.

Moreover, in 1887, I. Straus, in Paris, had shown that tubercle bacilli might be present in the nasal and pharyngeal secretions of people who showed no signs of tuberculous disease. Similar findings were made in respect to other "germ diseases".

So, then, it was necessary, once more, to revise the theories of disease causation, and the brief ascendency of extreme bacteriologic thought was modified.

While there was not, and could not be a return to the older ideas of "humors", diatheses, and so forth, as being more or less responsible for illness, it was realized that infectious diseases could develop only if, in addition to the infectious virus, there was a certain something present in the organism; if, as the French clinicians put it, the "soil" (*terrain*) was receptive. On the basis of this idea, the existence of a "predisposition" once more forced itself into the foreground and this despite the unfavorable opinions voiced by certain authorities. Even Germain Sée's somewhat sneering remark, that predisposition is but a word used to mask our ignorance, could not cause clinicians to ignore the importance of the soil in which the seed (germ) was to be implanted.

Old-time clinicians, such as, for instance, Jonathan Hutchinson had stoutly maintained the importance of temperaments, idiosyncrasies, diatheses, in the etiology of disease (see, for instance, Jonathan Hutchinson, "Pedigree of Disease"). Soon after the turn of the century, these ideas came to be advanced more and more

strongly and, in a modified manner, the importance of constitutional peculiarities was once more recognized. Martius, of Rostock, Bendecke, of Marburg, and others published masterly treatises on this subject in which it was shown conclusively that infection and the infectious virus constitute only isolated factors in the causation of disease—necessary and indispensable, it is true, but not able to determine disease by themselves and without a predisposition, a constitution, a suitable soil (whatever you want to call it) favorable to the localization and multiplication of the germs.

At the present time, it is fully acknowledged that infectious diseases occur only in persons whose "resistance", or immunity, does not suffice to prevent the multiplication and unfavorable action of the germs that have determined an infection. We do not exactly know the nature of resistance, but we do know that it exists.

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It has been said that predisposition to bacterial disease is, really, a mild degree of infection. This view received support through the investigations and experiences with what we have become accustomed to designate as "focal infection". The recognition of the fact that infection may exist, unrecognized and unknown, in hidden places, such as the tonsils, the sockets of the teeth, the appendix, lymph glands, and elsewhere, has made us realize the reason why some people acquire bacterial affections more readily than others, why these may follow upon apparently slight and unimportant occurrences, why they may be unusually difficult to manage and to remove, and many other points of interest.

To refer to occult tuberculosis infection, as a ready instance, it may happen that an inactive, dormant infection of one or more lymph glands may give rise to a "deficiency" of the organism, a vulnerability to harm, a constitutional weakness; that at times serious affections, such as arthritis may occur on the basis of such an inactive and unrecognized infection. Given a sufficiently severe blow to the organism, such as an attack of influenza, overwork, distress or other strain, and the bacilli which have been held in check may be liberated, invade the circulation and give rise to an acute attack of tuberculosis. This has been observed only too often after tonsillectomy, for instance, or after other operations.

In other instances, focal infections are responsible for a state of ill-health the cause of which is not recognized by any of the customary clinical modes of examination; unless specific reactions are produced by diagnostic injections of bacterial vaccines. Of course, the physician will investigate the conditions of tonsils, of gums, lymph glands and other possible foci of occult or active infection, as a matter of course. If he finds trouble, he will take steps promptly to remedy it—usually, with decided benefit to the patient through a marked diminution of the symptoms of ill-health.

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In matters of diagnosis, the methods and instruments available have become so numerous that it is difficult to practice all the important ones of them consistently. There is danger, moreover, to yield to fads and to attribute undue importance to any such measures. The reading of blood pressure determinations, for instance, has been much overdone. Still, that method often is of great value and affords very important information. Blood counts, serum tests such as the complement-fixation test, and others, all have a definite place.

One new diagnostic test, of benefit in infectious diseases, is the utilization of the reaction following the injection of a corresponding bacterial vaccine. Needless to say, it takes experience to learn how to evaluate the meaning of such reactions; but there is nothing in medicine that can be learned and mastered without experience.

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Bacterial vaccines, too, have come to fill an important and a justified place in modern therapeutics, irrespective of the cheap jests of some outsider reformers and muckrakers who amuse themselves by accusing physicians of using vaccines for broken legs. The indisputable fact is, that bacterial vaccines have revolutionized the treatment of infectious diseases and have made it possible to shorten their course and to lessen their severity. No matter what may be declared solemnly from the professor's desk or in cut-and-dried textbooks, there is hardly a physician, be he general practitioner or professor, who would venture to act upon the assertion, for instance, that pneumonia is always a self-limited disease and that no treatment can modify the course or the outcome of an individual attack in the slightest. We may subscribe to such a (silly?) assertion academically [We do not!—Ed.] but, when it comes down to brass tacks, we *treat* our patients as best we know how, and most of us will resort to the prompt employment of "specific," that is, bacterial remedies.

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With regard to constitutional diseases, many changes have taken place in our views during

the last thirty years. With regard to diabetes, for instance, it has been realized more fully than before that it is a disturbance of the metabolic processes involving the entire system and not localized in any one organ. The outstanding sign, that is, the elimination of sugar with the urine, is but a subordinate symptom and may be employed only in a limited manner, as a criterion or a guide as to the process of the disease or the progress of the treatment.

In nephritis, we have realized that, very often, the inflammation of the kidneys is based upon a localization of bacteria. On the other hand, it must be admitted that mechanical injury through overwork can determine irritation of the secreting tissues, bringing about inflammation in that manner.

In rickets, present-day views are radically different from those of thirty years ago or even of five years ago. It is being appreciated now that rickets is by no means a deficiency disease, that it is not produced by faulty feeding but, rather, by insufficient sunlight.

Cancer has become one of the most puzzling and most closely studied affections. The surgeons, who occupied the front of the fight against cancer, still claim that evidences of this trouble must be removed. However, voices are becoming very insistent that show operable cancer lesions to be really effects and end-products and prove that cancer is far more a medical than a surgical disease.

One of the most important advances that may be recorded consists in the intensive study of the venereal diseases and in the merciless campaign that is being waged against them. With the discovery of the Treponema pallidum, the origin and nature of syphilis has come to be understood more clearly. Chemotherapy has enabled us to treat it radically; not, it is true, by arsenic alone but by a combination of arsenic and mercury. In gonorrhea, chemotherapy combined with specific bacterial treatment has shown splendid results and the difficulty is only to bring people to a realization of the urgent necessity to treat chronic affections persistently. Finally, prophylaxis has come to occupy an important place and the hope is justified that, in course of time, the venereal diseases may be curtailed greatly, provided the cooperation of the public can be secured.

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Thirty years ago, we had barely conceived the importance that the thyroid gland may possess for the well-being of the entire organism. It was not until a bare twenty years ago, that the whole chapter of endocrine glands, or hormology, hormotherapy, etc. was opened up through the fundamental studies of Sajous. Today, the physician who would leave these important and puzzling structures out of consideration in the study of his patients, would often deprive himself of valuable diagnostic hints; if he were to refuse the employment of endocrine remedial agents, he would inevitably remain behind his fellows in the successful practice of his calling.

Not that these organs are fully understood or that hormotherapy is absolutely and completely established. Much of it is empirical. We are glad that it is so. Without empirical methods, we contend, there can be no progress. If ever the day comes when empirical methods are no longer employed, when we know everything that is to be known, there will be more than an arrest of progress; there will follow retrogression, and the deluge.

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In matters of sanitation, the last thirty years have shown a notable advance. Despite the denials of open and hidden foes of medicine, the efforts of sanitarians, mostly physicians, have brought about a marked diminution in the mortality and, often, the morbidity of infectious diseases. Diphtheria, typhoid fever, are not nearly as frequent nor are they as fatal as they were thirty years ago. Tuberculosis has had its tribute from the human family cut almost in two. True, there are the new aspects and forms in which influenza makes its appearance. However, it would be unjust to lay that to the charge of the medical profession. We believe that the numerous unfavorable circumstances attendant upon war time are responsible for most of the epidemics of this and some other plagues that have afflicted mankind in the last six years or so.

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There may be recorded a commendable desire on the part of the lay public to be informed in matters connected with health; to learn how to live so as to prevent disease and how to live in physical comfort. This laudable desire has induced numerous health fakers and charlatans of fragmentary and often incorrect education to offer much misinformation and, no doubt, lead many astray—to the injury of those poor victims. In the end, these false prophets will not be able to maintain themselves. Physicians will in time realize that they must fit themselves to transmit the required information and teaching and that they are entrusted with the responsibility of guarding the people's health.

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What shall we say of Christian Science, the Emanuel Movement, Freudism, New Thought,

and, last but no more least than any of them, Couéism? What is new in most of their teachings is not true; and, what is true, has been practiced by physicians from time immemorial, though, we admit, not always deliberately or with as full understanding of facts as is being developed gradually.

What will the next thirty years bring? Many of our readers will be here to see. For our part, we shall be satisfied to write *Finis* whenever there is no more work for us to do.

Knowledge is proud that he has learned so much; Wisdom is humble that he knows no more.—Cowper: Task.

PUT YOUR SHOULDER TO THE WHEEL

With this issue of CLINICAL MEDICINE starting a new volume—the thirtieth, by the way, and which is the first of the New Year,—resolutions are in order. We were particularly pleased to receive the following cordial note from our friend of many years, Dr. W. E. Neiberger, Bloomington, Illinois.

"As your thirtieth anniversary number of CLINICAL MEDICINE is near at hand, I wish to assure you of my continued appreciation and support. This peerless journal, along the special lines of its activity, has no competitor in America."

We have reason to think that a good many of our subscribers share Doctor Neiberger's good opinion. Unfortunately, but few of them take the trouble to tell us so. Yet, has it ever occurred to you how much you like being told that your work is appreciated and approved of? Do you ever realize how pleased you are if somebody expresses active and cordial appreciation? If you have—we feel just the same way!

Not that we want a greenhouse full of bouquets. It would be so much nicer if our subscribers would show their approval and their appreciation of CLINICAL MEDICINE by realizing that it is their own journal, and that it is up them to keep it a good, useful journal. It is so very easy to keep on, month after month, *reading* CLINICAL MEDICINE as it comes to your desk, taking out the good points, remembering them in your work, benefiting from them and, perhaps, say casually—"I got that out of CLINICAL MEDICINE; good stuff!" If you always receive benefits and never confer them, do you think you are acting quite fairly?

In our opinion, the staff of contributors to CLINICAL MEDICINE consists of all subscribers of the journal. We want all of you to contribute, to tell us when you have something worth while to discuss, what you do not agree with or approve of; perhaps to commend something that struck you as particularly happy and true.

Years ago, when the present writer first became associated with the late Dr. Abbott, the latter said to him: "When you read a particularly good, or useful, or interesting, or well-written article in a medical journal, write and tell the author about it. It will make him feel good; it will make him your friend, and it will help you, yourself, if you appreciate the efforts of others—tangibly." It was a good thought and a bit of advice worth following. Approval, expressed generously, incites to greater effort, to better work. Let us remember that.

Let's make a New Year's resolution: That we, all of us, shall pull together to make CLINICAL MEDICINE, in particular this thirtieth volume of CLINICAL MEDICINE, the best ever. We want a lot of good articles and letters. We want active and animated discussions. We want a live journal that is so much alive that it scintillates. We truly want it to be the best journal for the practitioner of medicine.

Help us to make it so!

THE AVERAGE ANNUAL INCOME

In one of his daily editorial talks, Mr. Arthur Brisbane has the following to say:

"Statistics show that the average American farmer will get this year a net income of $465. That's a little better than $1.00 a day. It isn't the pay of one man alone. It represents the earnings of himself, his wife, and children. It is the pay for getting up before daylight and working until after dark, in the mud of the barnyard, in the cold of the windy fields where late husking is done. No wonder there is a big 'farm bloc' in the Senate. It is needed."

A net income of $465 for the farmer and his wife and children, representing pay for work done by all of them, is a good bit less than the $700, more or less, that is repeatedly mentioned as the average annual income of practitioners of medicine or of the stipends that are doled out to ministers of the Gospel. It seems incredible that such conditions can be permitted if we compare them with the statistics emanating from certain government offices, according to which a minimum of somewhat over $1,200 a year is considered the least amount on which a man can maintain his family decently. The thought intrudes itself upon us that this last figure was arrived at with a view statistically to determine the minimum earnings of laborers, especially members of labor unions; it being held politic and diplo-

matic in many quarters to coddle labor unions and to appease them in every possible way.

If we consider that, just recently, we, personally, had to pay to plasterers working on a house now going up almost $25 a day, that carpenters, steam fitters and brick layers and even hod carriers earn veritable salaries, and for long have ceased to work for mere "wages," it strikes us that not only members of the profession but also those of the oldest of all callings, the farmers, are treated rather shabbily and are decidedly discriminated against by a benevolent commonwealth.

There is something wrong somewhere when such conditions can exist.

What is to be done about it?

A man who does not learn to live while he is getting a living is a poorer man after his wealth is won than he was before.—J. G. Holland.

AMERICAN EDUCATION WEEK

Two years ago, Dr. P. P. Claxton, former Commissioner of Education, instituted the observance of the first week in December as "Education Week." The American Legion, in 1921, became interested in the perpetuation of such a week and took the initiative in inviting the National Education Association and other organizations to cooperate in the observance of "American Education Week." In 1922, the United States Bureau of Education cooperated with the American Legion and the National Education Association in inviting every American organization, club, church, school, newspaper, magazine, theater and individual and bodies of every description to participate in making the week from December 3 to 9 a real nation-wide revival of educational enthusiasm.

For that occasion, the Department of the Interior, Bureau of Education, at Washington, D. C., published a large sheet containing "copy" for the use of the press. From the numerous articles appearing on that sheet we quote a few titles: "Educational Rights of Children." "Inequality of Educational Opportunity and School Support." "Teachers' Salaries and the Cost of Living." "Educate your Children!" "Parent-Teacher Associations." "Juvenile Delinquency." "Education and the Ballot." "Over $3,000,000,000 Needed for School Buildings." "Illiteracy in the United States." "Americanization of the Foreign Mother." "The Kindergarten as an Americanization Agency." "Democracy and Education." "Education and Wealth."

All this is mighty fine and deserves general popular support. Aside from this movement for bringing about a more thorough general education of the American people, we might refer to a movement that has been maintained more or less energetically for a few years and that received a strong impetus in 1922. We refer to the campaign for popular education in matters relating to the health of the people and of the public.

The campaign against tuberculosis, the campaign against cancer and that against venereal diseases are important factors in this movement for popular health education. The custom of certain daily papers employing physicians to discuss matters of health and ill health is another agency that works much good in some instances, while, unfortunately, in other cases harm is done when the medical consultant is not qualified to give advice.

It is a fully recognized fact that, for a number of years, the public has awakened to the importance of health education, and we may conclude justly that the general unrest as regards the popular attitude toward the various healing agencies is due as much to the desire of the people to learn as it is to the deliberate attempt of irregular cults to invade and absorb the healing field.

Various movements were started during the course of 1922, looking to the observance of National Health Weeks, with which was to be associated the publication of numerous instructive articles dealing with health problems in general and also with specific diseases.

A further important factor in this movement for general health education became active in the health and sanitation expositions which were held in Chicago, during Pageant of Progress Week, in 1921 and 1922. Quite recently, a further step has been made in the announcement of at least three health journals which address themselves to the public and which set themselves the task of instructing the people individually and collectively in matters of health that should interest them and that they should become familiar with. These three journals are:

Hygeia: A Journal of Individual and Community Health, the first number of which is promised for April, 1923 (to be ready in March), and which is announced as a scientific medical magazine for the public. It is to be published by The American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

In an editorial on the subject, *The Journal of the American Medical Association*, December 2 (p. 1932) says that the first number of this magazine will mark what, it is hoped, will

prove to be another great step in the service which the American Medical Association is rendering to the medical profession and to the people of our country.

"Aside from the utilitarian aspects of the title *Hygeia*—its brevity, ease of pronunciation, simplicity and attractiveness—it is symbolic of the very foundation of medical science and preventive medicine. The name signifies the purpose of the periodical; to interpret medical science to the public; to inform the layman concerning the fundamental facts of physiology and pathology; to keep him in touch with the advance that scientific medicine is making in the prevention and alleviation of disease. By its physical form, its attractiveness, its interest and its practical value, *Hygeia* should appeal to the lay reader as a publication worthy of his attraction."

The second publication of this kind is *Health,* which also aims to do what has been discussed for years in our medical societies, namely, publish a magazine on health that is scientifically accurate but written in newspaper English and copiously illustrated. The promoters of *Health* hope to make it of great educational value by telling the people in an interesting way the facts regarding health and disease. *Health* is published by The Home Publishing Company, Inc., Room 208, 106 W. Randolph St., Chicago. Dr. Frederick R. Green is the chief of the editorial department.

The Nation's Health, published by The Modern Hospital Company, Inc., at 22 E. Ontario St., Chicago, has, for some years, offered service to sanitarians, visiting nurses and other health workers throughout the country. It announces that, in fulfilment of its original plan, this magazine now enters upon an era of broader journalistic service as a publication devoted to community, industrial and institutional health problems. *The Nation's Health* devotes special attention to the public health field and to public health matters. It aims to make possible the correlation of all that is representative in the contributing sciences and the presentations in their broader relationship of the problems of administration through which preventive medicine is made to function in the interest of public health.

If we want to be truly modest and humble, we must acknowledge that, as a general rule, we, as physicians, are not as well equipped to teach the people as we might be. We may be able to tell our students or young colleagues of some phenomena, of symptoms, abnormalities and so forth, and we usually get away with it—if we can use technical terms. Time was, when we could do the same and could impress our patients by talking to them in what might be called the medical language. The people no longer are satisfied with that. Very often, they react to our pompous explanations by requesting to be told the same thing in English and, then, we are exceedingly prone to stumble, to hem and haw, and we find ourselves unable to give the desired information in simple sentences.

Yet, physicians should be able to teach their patients. That is one of their duties, and it is by no means the least important one. We believe that these popular health magazines that we have mentioned will accomplish much good work. We hope that they will force us, you and me, to formulate our thoughts, our conceptions and ideas, in such a manner that we can "deliver." What I mean is, that we on our part can study these magazines for the purpose of "boning up," so that we may be able to tell the people what they want to know in a form which they can understand.

It is true that there are many things, not always medical, that can not be popularized; that will always remain technical and will be within the special province of trained physicians. It is equally true, though, that there are numerous things in medicine that should be popularized and that can not be taught and preached too simply and too plainly. Let the people once become instructed truly, correctly and sensibly in health matters and they will soon realize that, after all, the medical profession is the real guardian of the people's health and the only competent agency to deal with the cure of disease. A genuine popular education in health matters will ultimately deal a death blow to the various irregular cults, because it will bring people to see that these irregular practitioners deal in assertions and opinions rather than in facts and that they can not make good in spite of their vociferous and loud-mouthed claims.

In order to make a success of life, one has to have some trouble.—T. H. Standlee.

THE REJUVENATION OF MEDICAL ETHICS

In an impressive article contributed to the *Journal of the Indiana State Medical Association* for December 15, 1921 (p. 422), Dr. Frank B. Wynn cites ten commandments of medical ethics which we may well take to heart and a close observance of which would go far toward solving the difficult problem of medical ethics. It seems to us that the question of medical ethics would be a perfectly simple one if we could only bring ourselves to go back to first principles. Observe the Golden Rule:

deal with your neighbor—with anybody with whom you come in contact—as you would want him to deal with you, and the rest follows logically. If everybody were to obey that rule, there would be no need for laws, for prisons. Very soon, even institutions for the sick would become less. We do not mean to claim that the observance of the Golden Rule would remove sickness, but we do assert that it would diminish its frequency. There are a great many consequences that would follow and that would make this world a mighty delightful place to live in.

Unfortunately, we are, at the present day, further from the Golden Rule than ever before. For that reason, we must resort to makeshifts. We reproduce Doctor Wynn's ten commandments of medical ethics, believing that it will be well for us, meaning the whole medical profession, to observe them.

1.—*Reverence and Responsibility.*—Remember thy Creator in the days of professional youth. Bow reverently before the wonderful human body, sick or well, as thou wouldst before a sacred shrine, conscious of thy high duty; resolved to serve to the best of thy power, whether the patient be black or white, prince or pauper, saint or degenerate.

2.—*Historic Appreciation.*—Honor thy father and thy mother. Likewise give praise to the fathers in medicine, whose rich heritage of scientific and clinical truth has been handed down to thee through centuries of patient toil. Hold fast to that which is good, but let not prejudice, coming of the past, blind thy vision to the newer truth of medical advancement.

3.—*Keeping the Faith.*—Thou shalt not worship the graven images of false practice—of avarice and selfishness which eat at the very heart of medical idealism; of clever artifice or brazen quackery which knowingly deceives; of erratic isms and cults which tell but half truths, leading the ignorant and unwary astray.

4.—*Inviolable Confidences.*—Thou shalt not disclose the secrets confided to thy keeping by trusting patients unless they be of criminal or treasonable import. Nor shalt thou abuse the professional intimacy granted to thee by women, which becomes a professional and moral obligation thou shouldst hold inviolate.

5.—*The Sanctity of Life.*—Thou shalt not hazard life unwarrantably; neither shalt thou shrink before the obvious perils of duty when life is at stake. The unborn shalt thou not destroy except if, after due consultation, it is deemed advisable for the larger saving of life. Suffer not death to come through neglect in care of the sick, nor from failure in reading, study and counsel to gain the greatest benefit for the patient.

6.—*Professional Cooperation.* — Thou shalt not bear false witness against a worthy professional brother, but seek ever to protect his good name from calumnious attack by misinterpreting laymen [and colleagues—more's the pity!—Ed.] Of thy knowledge give him unstintingly, counseling and cooperating for medical progress.

7.—*Gentlemanly Conduct.*—Thou shalt not prate of cases nor countenance unseemly boasting of thy achievements in the lay press. Always be a gentleman. Let thy conduct be reserved but without cowardice; courteous but free from flattery; dignified but of warm heart; tender in ministration but firm in command; clean of body, speech and mind.

8.—*Honesty in Business.*—Thou shalt not steal; neither shalt thou make extortionate charges nor deceive by the secret division of fees. As a laborer worthy of hire exact fair compensation, but by open methods and with conscience void of offense toward thy fellowman.

9.—*Obligation to One's Own.*—Take heed of the morrow for the sake of thine own flesh and blood. Therefore, shalt thou keep orderly accounts, collecting from the full-handed just recompense for services rendered. To the poor and the families of deserving colleagues, thou shouldst account it a privilege to render faithful attention.

10.—*Personal and Public Service.*—Remember thou art thy brother's keeper—physically in the measures and remedies advised for the prevention, alleviation or healing of disease; spiritually in the cheer thou bringest to heavy hearts and the courage thou givest to halting steps. So walking upright before man, mayest thou show thyself approved unto God. Thus journeying toward life's end, if not singing with the Psalmist "My cup runneth over." thou wilt at least be sustained by the reflections of "a workman that needeth not be ashamed."

In this world the inclination to do things is of more importance than the mere power.—Chaplin.

A TRUE VACATION

In the "Chicago Health Bulletin", we find the following letter from a Kansas citizen to the editor of his local paper:

"I wish to thank the city authorities for quarantining my family and me for three weeks recently, because one of them had the smallpox. During that time, my wife caught up with her sewing; we had three square meals a day, as no

one came in and she was not permitted to leave; we enjoyed three weeks of good nights' sleep; and best of all, a cousin with four children who had arranged to visit us, saw the smallpox sign on the door and left town so scared she will never come back again."

To this, Mr. Arthur Brisbane adds:

Possibly ironical, but highly suggestive. Think of three inexpensive weeks in which to catch up with your family, your work and your soul! In the line of a real vacation, what has Palm Beach to offer in comparison? And all at the price of a little contagion.

A drop of ink may make a million think.—Byron.

A SINGLE STANDARD FOR ALL WHO TREAT THE SICK

The Supreme Court of Illinois, in its decision declaring the Illinois Medical Practice Act of 1917 void because the Act discriminated against "one class of physicians," was impelled by the logic of the situation to add: *"We are not prepared to hold that requiring four years' professional education before a Chiropractor or Osteopath is allowed to practice his profession is unreasonable or unjust."*

The Supreme Court of Ohio adds this jolt to the chiropractors' contention that they do not need to know a great deal in order to treat human ailments: *"As the body politic is sometimes found to be in possession of undesirables foreign to our government and our public welfare that require immediate and drastic deportations to other shores, so the physical body is not infrequently found to be in possession of some foreign growth whose immediate removal is indispensable to the health and life of the patient. To say that such knowledge in no way pertains to the treatment of the chiropractor is sheerest nonsense, even to a layman."*

It is something infinitely worse than *sheerest nonsense* to any *layman* afflicted with tuberculosis of the bones of the spinal column, or an irreducible strangulated hernia to be treated by spinal *adjustments*. It is criminal ignorance rather than *nonsense* to treat diphtheria, syphilis or malaria by any *drugless* method whatsoever. The itch can be *treated* by manipulation, but it takes sulphur and grease to *cure* it.

Treatment for any diseased condition can not be chosen until it has been determined *what ails the patient*. Finding out this all-important fact requires a thorough knowledge of the human body *in health and in disease;* and this thorough knowledge can be had in just one way and that *one way* is, through years of close application to study by persons who have learned *how to study*.

The *practice of medicine* is founded upon the wisdom of all men and the science of all time. The practice of the medical *cults* is founded upon some fantastic theory of disease devised and invented by some single individuals, and its practice consists solely of one and the same treatment for every complaint.

The children of men have the right to be born and, being born, the children of men have the right to live and grow, to enjoy health and happiness. These fundamental rights are best conserved by compelling all who deal with the health and lives of their fellow beings to come armed with *high* educational qualifications as a prerequisite to the *high* privilege they seek.

Let there be one high scholastic plane of approach to the position of arbiter of human life. Let the door to the temple of healing be closed to the money changers!—[From *Bull. Chicago Med. Soc.,* Nov. 25, '22.]

THE ORGANIZED FIGHT AGAINST QUACKERY

The Secretary of the Illinois State Medical Society recently addressed the members of that society on a matter that has become one of urgent and immediate importance and which the medical profession no longer can afford to ignore. Altogether too long have regular physicians been content to close their eyes to existing evils through which not only their own pocket-books were seriously robbed, but also because of which the public suffered, since, in many cases, a foolish and ill-advised resort to socalled drugless methods of healing caused the loss of valuable time during which loss of life and health might have been saved.

The letter to the members of the Illinois State Medical Society might well have been directed to the medical profession at large. For this reason, we reproduce a portion of it herewith:

"The medical profession has lost caste with the public as the physician and the people have been forced apart until they are out of touch with each other. Recognizing this, leaders in the medical profession are casting about for remedies. In 1922, at the St. Louis meeting, the A. M. A. passed resolutions to proceed upon an educational campaign for telling the public what medicine has done and is doing now for humanity. Several of the state societies have pursued a similar path. At its meeting in June, 1922, the Illinois State Medical Society passed a resolution to the effect that the House of Delegates of the Illinois State Medical Society go on record as endors-

ing a broad plan of publicity through pamphlets, addresses and the lay press, any or all, to the end that the public be enlightened on the truths and principles contained in the development, progress and present status of medicine in order to counteract the advertising propaganda of the many sects who claim superiority in methods of healing over those of established medical practice.

"The Council of the State Society, at its September meeting, gave the matter thorough consideration to the end of carrying out the recommendations of the House of Delegates. A committee was appointed to execute the instructions of the Council in devising ways and means to educate the public to the dangers of medical practice by the untrained and uneducated. This committee was instructed to prepare and to supervise matter that is to be printed in daily and weekly hometown newspapers, both English and foreign language periodicals throughout the state.

"These articles will open the eyes of the people as to the progress of medical science and the consecration of the profession to humanity's welfare. THEIR CONTENT WILL IMPRESS SPECIFICALLY UPON THE PUBLIC THAT A SICK MAN NEEDS A DOCTOR AND NOT A MOUNTEBANK! This propaganda for the lay press will be handled by reliable organizations, skilled in approved methods for securing results from educational publicity.

"Distributive pamphlets and pertinent lectures will aid this press campaign. Through these avenues, general, educative and elucidative, scientific data will be dispensed to the people. Exploitation of any one individual, or group of individuals will be barred as will all matter of a paternalistic nature. In this campaign the great science of medicine is to be revealed through its works to the people who need this knowledge to save them from quacks and charlatans. This publicity will show the virtues of the real, in contrast to the dangers of the bogus. Further, it will open the eyes of the man who is too ignorant to distinguish medical skill from bunkum, and will clear away the fogs from the minds of those who should know better, but who do not."

THESE CHIROPRACTORS

In connection with the preceding editorial, we naturally are reminded of the arrogant and bold advertising campaign that adherents of the Chiropractic school of "healing" have inaugurated some years ago and are carrying on with an effrontery and a disregard of truth that is startling.

For long, we have intended to say something about this matter. In another department of this issue of CLINICAL MEDICINE, we present two original articles, one by a physician and one by a layman, that both deal with the Chiropractic danger and, at the same time, offer a remedy which might be invoked with almost certain assurance of success.

In the last instance, it is clearly up to the medical profession whether it wishes to be squeezed to the wall or whether it will decide to assert itself and to make impossible the tactics, pretenses and dishonest practices of those blacksmiths, barbers, day-laborers and others who, with barely a common-school knowledge, acquire the degree of Doctor of Chiropractic and offer to treat disease, no matter of what kind, no matter in whom.

Truly, it is a scandal and the scandal is the greater in that the medical profession has permitted it to continue so long. It is high time that we should rise, put down this fraud and eradicate this evil.

The wrestling match was a whirlwind and hotly contested affair. Every fan near the ropes was on his feet wild with excitement and yelling with every ounce of lung capacity—all but one frail little man, who was sitting totally oblivious to both the bout and the bedlam in the attitude of a man who is vainly trying to recall something.

Finally, with a hopeless sigh, he looked up and glanced casually at the wrestlers. Then he sprang up and elbowed his way through the crowds.

"The Chiropractor"! he shouted wildly. "That was it! I have an appointment with the Chiropractor!"

EDUCATIONAL PIONEERING FOR CHEMO-MEDICAL RESEARCH

Within the first four years of its existence, the Chemical Foundation has devoted more than a quarter of a million dollars to educational work that was designed to pave the way toward popular appreciation and support of chemo-medical research and to impress the whole American people with the possibilities of saving human life and health that lay along this path of progress. It has been instrumental in aiding a group of eminent scientists in this field to prepare a report, outlining what may be accomplished by such cooperative research, and by printing and placing this document in the hands of a million intellectual leaders throughout this country. By contributions to the National Research Council, the American Biological Society, and other organizations, it has been able from time to time to stimulate activities along these lines.

Following the appointment, by the American Chemical Society, in 1919, of a committee of pharmacological, chemical and research authorities, the Chemical Foundation made arrangements for extended study of the future possibilities of chemo-medical research through this committee, as well as the compilation of a report designed to carry to the general public the results of its investigations. "The Future Independence and Progress of American Medicine in the Age of Chemistry—A Report by John J. Abel, Carl L. Alsberg, Ray-

mond F. Bacon, F. R. Eldred, Reid Hunt, Treat B. Johnson, Julius Stieglitz, F. O. Taylor and Charles H. Herty" was the outcome of these activities.

Eighty thousand dollars has been spent on the preparation, printing and distribution of this pamphlet by the Chemical Foundation, with the results that its contents have become familiar to medical men throughout the country and have aroused the interest of more than a million leaders in intellectual, social and financial life in every locality. Thousands of letters expressing enthusiastic support of chemo-medical research, as outlined for the future in this report, have been received from all classes of persons, in every state. The workers of the Chemical Foundation believe that, in this way, an enduring foundation for public appreciation of research in this field has been laid throughout this nation.

In addition to its educational campaign on behalf of chemo-medical research, the Chemical Foundation has been able, during the past few years, to support valuable work on the standardization of biological stains in cooperation with the American Biological Society, as well as to aid in continuing the publication of the "Journal of Physical Chemistry," at Cornell. It has pledged $25,000 to enable the American Chemical Society to continue its very valuable publications and assisted the National Research Council by financing a survey of chemical facilities in American colleges and universities, as well as a compilation of a table of constants, representing some ten thousand dollars in expenditure.

For the future, the Chemical Foundation intends to make every possible effort to bring to the people of the whole country a knowledge and appreciation of the benefits that they must derive from the splendid scientific labors of chemo-medical research.

L. Y. M.

DON'T FORGET CALCIUM SULPHIDE

The world of medicine is moving so fast that, sometimes, we forget useful drugs that were efficient ten years ago and still remain the best of their kind for the treatment of certain diseases. Just now, I am thinking of calcium sulphide which, for the common contagious diseases, such as measles, scarlet fever, whooping cough and even smallpox is, in my humble opinion, without a peer.

These remarks were inspired by the receipt of a letter from our old friend Dr. Carlos F. Secord, formerly of Guatemala but now of Omaha. In a personal letter from him, I find the following paragraph:

"It is interesting to state that one of the influential Indian chiefs has come to this country to persuade me to return, he acting as representative of others. There is at present an epidemic of smallpox in Guatemala, and he also asked me to give him medicine to combat it. I was so remarkably successful, some years ago, during a tremendous epidemic down there (during which we vaccinated some fourteen thousand people and treated many hundreds), and they have not forgotten it. They never forget anything. My treatment was: First, a heavy podophyllin purge; next, pilocarpine sweat; finally, calcium sulphide and rhus tox, to effect. Results: called magical; many cured even after their coffins had been made and placed at the bedside."

The efficacy of calcium sulphide in these virulent infectious diseases has been attested by many general practitioners and, especially, by medical missionaries in Turkey, in Syria and elsewhere, who observed the remarkable action of this remedy under otherwise very unfavorable conditions and environments. The habit of prescribing calcium sulphide "to effect and then to maintain saturation" is a good one to acquire.

A Happy

and

Prosperous New Year!

Leading Articles

Chemotherapeutic Developments in the Treatment of Syphilis

By GEORGE W. RAIZISS, Ph. D., Philadelphia, Pennsylvania
Contribution from the Dermatological Research Laboratories of Philadelphia

EDITORIAL COMMENT.—The three modern methods of therapeutics that intrigue us most and that are being investigated with the greatest degree of devotion at the present time are, immunization (both active and passive) by means of the injection of foreign proteids, especially bacterial; then chemotherapy—which is not modern at all, but has recently entered an astonishing successful phase of development; and, third, organotherapy. With regard to chemotherapy, to which CLINICAL MEDICINE *has not devoted as much attention in the past as to the two other forms of therapeutics, Doctor Raiziss presents herewith a historical study which is highly academical, it is true, but which also is very instructive. We are happy to be able to publish Doctor Raiziss' paper, feeling certain that our readers will be keenly interested in it.*

EITHER in the elemental condition or in the form of organic or inorganic compounds, mercury has been employed by physicians in the treatment of syphilis from the time when the disease was practically first recognized and described. It is amazing to note that, in the literature written about 400 years ago, there were suggested therapeutic measures and methods of treatment with mercury which are very similar to those employed at the present time. Mercury was practically the only remedy employed in the treatment of spirochetal infections from the early part of the 16th century until the beginning of the 20th century, when a pentavalent organic arsenical, known as "Atoxyl", or the sodium salt of p-arsanilic acid, was recommended by Ferdinand Blumenthal, in the therapy of syphilis. Although favorable results were obtained with experimental animals, it could not be employed in syphilis on account of its untoward effects upon the general health of the patient.

In consequence of the phenomenal results obtained with organic arsenical compounds, particularly with the arsphenamines introduced by Paul Ehrlich, about 1909, mercury assumed a position of secondary importance in the therapy of syphilis. At the present time, the most satisfactory results are obtained by the intravenous administration of arsphenamine or neoarsphenamine in conjunction with intramuscular injections of various mercurials, administered between successive injections of the arsenical. In this procedure, the mercurials serve to reinforce the action of the arsenicals and also to prevent possible relapses.

Mercury Preparations

The brilliant successes, which attended the chemotherapeutic investigations of organic arsenicals, stimulated a great number of investigators who endeavored to achieve similar results with organic mercury compounds. Thus, Schilling Von Krogh, Schrauth and Schoeller[1] carefully investigated the action of various organic mercurials in chicken spirillosis, while F. Blumenthal and his coworkers elaborated a product called "Toxynon", the sodium salt of acetylaminomercuribenzoic acid, which proved to be of little value in the treatment of human syphilis[2].

Kolle and Rothermundt[3] recommended a sulfamino-antipyrene mercury compound which they called "Argulan." They claimed it to be less organotropic than other mercurials, and exhibited favorable effects in the treatment of human syphilis, when suspended in oil and injected intramuscularly. Hahn and Kostenbader[4] studied the pharmacological, physiological and therapeutic properties of a number of dyestuffs combined with mercury, which included mercury-phthaleins, mercury-anthrochinons and mercury azodyes. Although they claim to have obtained very favorable results, none of their compounds found application in practical therapy. In 1922, Edwin C. White, J. H. Hill, J. E. Moore and H. H. Young[5] reported favorable results in the treatment of syphilis with the disodium salt of hydromercurifluorescein,

which they called "Flumerin". The authors emphasized the fact that their drug is much less toxic than the ordinary mercurials, that even in large doses it causes little or no clinical injury to the kidneys of animals and, in ninety-six human cases, definite proof of its value as an antisyphilitic drug has been found.

Very recently, "Mercurosal", a mercury derivative of o-carboxyphenoxyacetic acid, has been elaborated and dispensed for the treatment of spirochetal infections. According to the producers, "There is abundant evidence that Mercurosal possesses high spirocheticidal value and that its administration, either intramuscularly or intravenously, is not followed by untoward symptoms." Cole, Driver and Hutton[6] found that the comparison of this drug with red mercuric iodide by the injection route, and also with mercurial ointment, demonstrated in several instances that the latter two remedies had at least an equal, if not a superior, antisyphilitic therapeutic action. They also claim that the drug had far from the high spirocheticidal value which the printed data of its manufacturers led them to expect.

The Author's Studies

For the past eight years, the author has been engaged in the chemotherapeutic study of many organic mercury compounds, for the purpose of preparing an organic mercurial which would not only have a specific destructive effect upon protozoan organisms in general and upon the spirochete of syphilis in particular, but one that could at the same time be safely administered intravenously into human beings in doses larger than those possible with any other known mercurial. A study of various new mercury compounds[7] showed that they could be tolerated intravenously by experimental animals only to the extent of a few miligrams per kilo of body weight, while the trypanocidal effect upon experimental animals infected with Trypanosoma equiperdum (the parasite of "la dourine", or horse syphilis) was either very feeble or entirely negative. On the other hand, the organic arsenical compounds exhibit a very marked trypanocidal activity. It has been claimed by some investigators[8] that the beneficial effects of mercury in the treatment of syphilis are not the result of its direct influence upon the spirochetes, but of its stimulation of antibody production. Recent investigations of Toyama and Kolmer, however, do not bear out this theory[9]. The failure of the development of valuable organic mercury compounds is due either to the fact that mercury is generally less specific for trypanosomes and spirochetes, or to the difficulty of preparation and the instability of mercurials in which both valences of the mercury are attached to the nuclear carbon, as in mercuridibenzoic acid.

Mercury compounds are still valuable as an auxiliary medicament in the treatment of syphilis; but, when used alone, their action is slow and their beneficial effects are uncertain. In addition, the intramuscular administration of mercurials may produce pain, stomatitis, dermatitis, colitis and, sometimes, impairment of the kidney functions, as it is necessary to introduce large amounts of mercury into the human body in order to effect the disappearance of spirochetes in external lesions.

Arsenic Chemotherapy

Ehrlich, Bertheim and Hata were the first to engage in systematic chemotherapeutic researches resulting in the synthesis of numerous new chemical compounds. They were mainly derivatives of "Atoxyl", which was the only aromatic organic arsenical known at the time. After preparing 605 various arsenic compounds, they finally elaborated, in 1909, a derivative many times more powerful than "Atoxyl" in its action upon protozoan infections. This new product, consisting of the dihydrochloride of 3,3'-diamino-4,4'-dihydroxyarsenobenzene, and known as "606", was dispensed under the trade name "Salvarsan", which has since been replaced by the name "Arsphenamine", in the United States. Three years later, a more soluble product, "Neoarsphenamine", was prepared by condensing the amino groups of arsphenamine with sodium formaldehydesulfoxylate.

Arsenic belongs to the group of elements which may exist in both, trivalent and pentavalent forms. In the first case, it is characterized by its unsaturated condition, in consequence of which its potential reactivity is considerably greater than that of the saturated, or pentavalent, arsenic. The chemotherapeutic investigations carried out by Ehrlich and his associates have established the fact that arsenic in the trivalent condition is a more powerful trypanocide and spirocheticide than the pentavalent element. This evidently indicates that there exists a relationship between the energy capacity of a compound and its destructive influence on parasites. This observation, together with the fact that therapeutically active elements must be linked to nuclear carbon atoms in order to exert their greatest influence upon pathogenic microorganisms, constitutes the most important advancements in modern chemotherapy.

The wonderful results obtained with arsphenamine and neoarsphenamine in the treatment of syphilitics have been definitely established, and the drugs are now employed by physicians

throughout the entire world. In many cases, practically complete cures have been effected by the intravenous administration of either of these two arsenicals in the early stages of the infection, severe lesions being dissipated within a short time after the initial injections. That arsphenamine is superior to mercury, is virtually an established fact. Its superiority is based not alone on the magically rapid disappearance of syphilitic manifestations after its use, nor its success where mercury has failed, nor on the greater influence on the Wassermann reaction, but is supported by laboratory studies on both, animals and men. In addition, there is a considerable latitude of safety between the parasiticidal and curative doses of both, arsphenamine and the neo product, which is not the case with mercurials.

Arsphenamines Safeguarded

Within the last few years, great progress has been made in this country in the perfection of the quality of both, arsphenamine and neoarsphenamine. According to the government requirements, arsphenamine should be borne by experimental animals in doses of 100 milligrams per kilo of body weight, while the tolerated dose of neoarsphenamine should be 200 milligrams per kilo. Most of the American manufacturers, however, have been able to obtain products which are borne in larger doses than the above, some samples of arsphenamine passing at 150 milligrams, and some neoarsphenamine at 400 milligrams per kilo. The margin of safety thus created is very large; for, in accordance with the figures given, a man of average weight could tolerate a single dose of 24 Grams of neoarsphenamine. The dose of the latter actually employed in practice, however, is only nine tenths of a Gram. As a result of these improvements, fatalities following the administration of arsphenamine or neoarsphenamine have been practically eliminated. At the same time, the therapeutic or curative power of the American-made drug has been considerably improved.

Although arsphenamine has, within recent years, attained the leading place in the treatment of syphilis, its condensation product with sodium formaldehydesulfoxylate is often preferred by physicians. This may be attributed to several factors. In the first place, the preparation of a neoarsphenamine solution for intravenous injection is much easier, because the drug is more readily soluble in water and forms a neutral solution requiring no further addition of alkali. Arsphenamine, on the other hand, must be dissolved in water and carefully neutralized with alkali, a procedure requiring time and experience. Another important advantage lies in the fact that neoarsphenamine is more readily tolerated by patients and produces the alarming symptoms or "reactions" to a less extent than its parent compound. In addition, the ratio of the therapeutic to the tolerated dose, i. e., the chemotherapeutic index, is more favorable in the case of neoarsphenamine[10].

Modifications of Arsphenamine

Since 1910, numerous attempts have been made in various parts of the world to produce a compound superior to either arsphenamine or neoarsphenamine and, as a result, there have been elaborated "sodium arsphenamine", "galyl", "luargol", "silver arsphenamine", "arsphenaminsulfoxylate", "sulfarsenol", "sulpharsphenamine" and a host of other compounds. In nearly all cases, the most promising are derivatives or substitution productions of arsphenamine which have not as yet shown any indication of replacing the two parent compounds.

"Sodium Arsphenamine", the disodium salt of 3,3'-diamino-4,4'-dihydroxyarsenobenzene, is tolerated by white rats in maximum doses of 212 to 215 milligrams per kilogram of body weight, but its smallest trypanocidal doses range from 16 to 24 mg. per kilo. Its chemotherapeutic index, however, is only about one-half that of either arsphenamine or neoarsphenamine[10]. This is surprising, in view of the fact that "sodium arsphenamine" is represented as being a solid form of properly alkalinized arsphenamine. In addition, the chemical analysis of various samples of the commercial disodium salt indicate that certain reagents have been added which cause some change in the molecule of arsphenamine, to the disadvantage of the final product.

"Galyl" was first regarded as a new chemical compound formed by linking two molecules of arsphenamine through the amino radicles by means of two phosphorus groups, and corresponding to a tetrahydroxydiphosphoaminodiarsenobenzene. Later, there was elaborated a "new" product, which was supposed to be a sodium salt of the "old" compound linked with five molecules of sodium sulfite. Its manufacturers claimed it to be less toxic than arsphenamine, quicker in its action on spirilla, and of equal therapeutic value. As a result of considerable investigation, it has recently been concluded that the composition of "galyl" has not been correctly declared, that its therapeutic claims are unwarranted, since it has been given a chemical formula which it does not appear to possess, and that the administration of the drug amounts to the administration of a solution of properly alkalinized arsphenamine[11].

"Luargol," a triple combination of arsphenamine base, silver bromide and antimonyl sulfate, was first prepared by Danysz[12]. It is claimed to be very efficacious in experimental cases of Trypanosoma surra and Tr. gambiense, and ten times as active as arsphenamine in sleeping sickness. Very promising results have also been obtained in a large number of cases of human syphilis[13]. It has been found that antimony compounds alone have a beneficial effect in refractory cases of trypanosomiasis and in arsenic-resisting cases of syphilis. In "luargol" the antiseptic properties of arsphenamine are supposed to be increased by the coordinated silver bromide, and further reinforced by the specific action of the antimony.

"Silver Arsphenamine" has attained more prominence than any of the other coordination compounds of arsphenamine base and various metallic salts. Although it was first prepared by Ehrlich and Karrer, in 1915[14], its constitution has not as yet been definitely established. According to these investigators, the silver was regarded as having attached itself to the arsenic, while Binz, Bauer and Hallstein[15] claimed that it was linked in some way to the amino groups. In 1919, Bauer performed a series of diffusion experiments with various arsenicals, from which he concluded that silver salvarsan is a chemically homogeneous substance containing the silver in complex combination[16]. Raiziss and Gavron carried out similar experiments, with silver as well as gold arsphenamine, and found that, while the arsenic passed through the membrane, this was not the case with the metal which was completely retained within the parchment bag. The authors advanced the theory that the metallic coordination products of arsphenamine are mixtures of disodium arsphenamine and a colloidal form of the metal[17].

"Sulfarsenol" is a derivative of arsphenamine in which one or both hydrogen atoms of the amino groups are replaced by a sodium sulfomethyl radicle. It was first described in a German patent,[18] but is at present manufactured in France. Vœgtlin and his collaborators[19] studied two different lots of the drug and concluded that it is well suited for clinical use on account of its great solubility in water, the stability of the resulting solution in air, and the absence of any local irritation following its subcutaneous injection. In addition, they found that its toxicity is about the same as that of an average sample of commercial neoarsphenamine; the trypanocidal power is less, weight per weight, than that of the average neoarsphenamine, and the rate at which its arsenic is excreted is of the same order as observed with arsphenamine and neoarsphenamine.

In conclusion, it may be stated that, despite the numerous researches and investigations in the synthesis of new arsenicals, antimonials, mercurials and bismuth compounds, during the past decade, the two drugs, arsphenamine and neoarsphenamine still rank foremost in the modern therapy of syphilis.

References

[1]C. Schilling, M. v. Krogh, W. Schrauth and W. Schoeller, *Z. f. Chemotherapie*, 1, 21 (1912).

[2]F. Blumenthal, *Biochem. Z.*, 32, 59 (1911); F. Blumenthal and K. Oppenheim, *Ibid.*, 39, 50 (1912); *Ibid.*, 57, 261 (1914).

[3]W. Kolle and M. Rothermundt, *Med. Klin.*, 21, 835 (1913).

[4]B. Hahn and E. Kostenbader, *Z. f. Chemotherapie*, 3, (1914).

[5]E. C. White, J. H. Hill, J. E. Moore and H. H. Young, *J. Am. Med. Asso.*, 79, 877 (1922).

[6]H. N. Cole, J. R. Driver and J. G. Hutton, *J. Am. Med. Asso.*, 79, 1821, (1922).

[7]J. F. Schamberg, J. A. Kolmer and G. W. Raiziss, *Am. J. Syph.*, 1, 1 (1917).

[8]H. Reiter, *Z. f. Immunitätsf.*, 15, 116 (1912).

[9]I. Toyama and J. A. Kolmer, *J. Immunol.*, 3, 301 (1918).

[10]J. F. Schamberg, J. A. Kolmer and G. W. Raiziss, *J. Am. Med. Asso.*, 76, 1823 (1921).

[11]Abstract of a Report of the Council on Pharmacy and Chemistry, *J. Am. Med. Asso.*, 79, 1706 (1922).

[12]J. Danysz, *Compt. rend.*, 159, 452 (1914).

[13]Renault, Fournier and Guénot, *Compt. rend.*, 161, 685 (1915); Dalimier and Lévy-Franchel, *Ibid.*, 162, 440 (1916).

[14]P. Ehrlich and P. Karrer, *Ber. deut. chem. Ges.*, 48, 1634 (1915).

[15]A. Binz, H. Bauer and A. Hallstein, *Ibid.*, 53, 416 (1920).

[16]H. Bauer, "Arb. a. d. Inst. f. exper. Therap. zu Frankf., a. M.," 45-53 (1919).

[17]G. W. Raiziss and J. L. Gavron, *J. Pharmacol. and Exp. Therap.*, 20, 163 (1922).

[18]Farb. M. L. and B., "D. R. P.," 249726.

[19]C. Voegtlin, H. Dyer and J. W. Thompson, *Am. J. Syph.*, 6, 526 (1922).

AN editorial writer says that millions will plan for improvement in 1923. A few will start the improvement now. They—the few—will still be going ahead twelve months from now—every day, in every way, as Coué would say. The only time is now. Much could be done in these last six days—everything in fact, for THE START *is everything, if you keep going.*

Thirty Years of Surgical Progress

By GUSTAVUS M. BLECH, M, D., Chicago, Illinois.

EHEU! fugaces anni labuntur! It seems but yesterday when I began the Herculean task of grappling with the mysteries of medicine, and, today, when more than thirty years have elapsed, I am almost glad of the opportunity to pause and take stock.

Like all human beings, writers on surgical topics divide themselves into two classes—the optimists and the anti's. Given an opportunity like this, the optimist would clap his hands in ecstasy and exclaim: What wonderful attainments I am about to chronicle! The other would shrug his shoulders and refuse to write a line, with a deprecatory: "Don't mention it."

As for myself, I am not supposed to belong to either class. Once they brand you with the label "editorial writer," you are supposed to have no feelings at all, no personal likes or dislikes, no friends or enemies; [Are you, now? We could tell a different story, an' we but would! Ed. A.] in fact, you are supposed to be a good deal like a judge in ermine instead of a human toiler.

Once in a while I (and I am glad to say I, because this is for once to represent my views as an individual, and not as a member of the Editorial Cabinet) feel like rebelling. But, having served in the Army, I have learned to obey as a duty, and, when the opportunity came to command, to command as a duty, without bias or fear, without favoritism, or partisanship.

And so I am of a trained mind to do things, uninfluenced by externalisms. Therefore, when reflecting on the achievements of surgery during a period corresponding to about my entire professional career, I find little cause to reach for the trumpet, nor do I feel justified in skulking in silence.

True, no volcanoes have been subdued and no new worlds discovered, but there has been steady, determined and intelligent plodding, so that we can enjoy traveling in comparative safety and comfort over roads heretofore narrow, rough and uncomfortable.

About three-quarters of a century ago, the famous master Dieffenbach exclaimed that surgery had then reached the very pinnacle of perfection. This eminent scientist condemned hysterectomy as a criminal venture on a par with extirpation of the spleen.

If Dieffenbach could rise today and see young men fresh from college perform hysterectomies and splenectomies as if these operations meant nothing in their young lives, he would doubtless mince no words in condemning those who aroused him from his eternal sleep. If, however, Dieffenbach could be shown real surgeons at work entering the brain, spinal cord, abdomen, etc., and produce physiologic or, better speaking, biologic cures, he would have to admit that there must have been surgical progress of a decided character, to make such results possible.

Let us not forget that, thirty years ago, surgery had reached a scientific basis and technical perfection which would have justified anyone to reject Dieffenbach's dictum, who appears to have spoken a few years prematurely.

Thirty years ago, surgery was already a "humane" art, because it had the means of performing its tasks without causing pain.

Aseptic Technic

The dreaded "hospital gangrene," which had made virtually every important surgical operation a highly probable admission ticket to a ride on Charon's boat, had vanished like mists before the sun, through a purposive antisepsis. Indeed, we had already gone a step forward by eliminating as much as possible the disinfection or sterilization by toxic chemicals and by resorting to thermic measures, which we have come to name asepsis, though the term is not justified etymologically. But, with the recognition that the washerwoman's method of boiling her dirty linen was the method par excellence for the sterilization of surgical instruments and implements, little was left for refinement of aseptic technics, so called. Whether one goes into a modern operating room with glass and metal furniture and vacuum steam sterilizers, or whether one observes a trained and conscientious surgeon at work in a miserable hovel, boiling his instruments in a cheap metal dish over a wood fire and laying them on a wet towel taken from the same dish, the aseptic technic is the same and equally effective, because based on the same scientific principles of germ-destruction by heat and of avoiding infection through contact.

But, in spite of the two great advances, anesthesia and asepsis, surgery still remained full of hazards, and earnest and capable minds have been uninterruptedly at work determined to discover ways and means to make surgical

operations as devoid of risk as human sagacity can attain.

Progress in Anesthesia

The very blessings of anesthesia were not unmixed ones: Ether and chloroform proved very often, too often for comfort, dangerous, nay, even treacherous drugs. Much has been done to transform these two drugs into sleep-producers (narcotics); that is to say, to produce with them surgical narcosis rather than anesthesia. Yet, in spite of the very utmost skill, one still confronts situations, especially in the desperately sick, in which one feels that the anesthetic *per se,* will reduce the already narrow margin of safety.

The administration of ether by the drop method, mixed with air after a preliminary partial narcotization with morphine and atropine, means a decided advance which falls into our period. The introduction of nitrous oxide-oxygen anesthesia means a still farther advance; but that, too, did not come up to expectations, as a mortality directly chargeable to the anesthetic has been unavoidable.

While the advances have been pronounced, we have still to attain the ideal. True, we no longer dread a general anesthetic, since our knowledge and skill guards the patient against sudden and overwhelming calamities; still, in the aged, in the weak and in those suffering from lesions of the circulatory, respiratory and urinary apparatus, we dread the possible after-effects.

Spinal anesthesia, while a method of huge scientific importance, has, unfortunately only a limited application, and appears to be relatively no less risky than general or inhalation narcosis.

Local Anesthetics

Somewhat before our period (1884) we received a valuable addition to our materia medica and surgical armamentarium through the introduction of cocaine, a drug which has a romantic connection with the adventures of Francisco Pizarro, and which was destined to have a revolutionary effect on surgical anesthesia.

Recognition of the dangers incident to the toxicity of cocaine led chemists to search for equally effective and less toxic substitutes, and these have been found in such drugs as procaine, butyn, and others. The non-toxicity or, to be exact, the relative non-toxicity of these chemicals made possible not only anesthesia of small sections of the human body through infiltration, but of considerable portions of the body through nerve blocking. Indeed, this method of anesthesia has been developed to such an extent that it has become a veritable rival to general anesthesia in an incredibly large number of major surgical operations.

It has one drawback and that is, that its practice presupposes familiarity with anatomy and a dexterity in administration not possessed by the general practitioner. While this is hailed with delight by those who would divide the medical profession into surgeons and those supporting the surgeons, it must not be forgotten that the difficulties of technic do not prove a barrier to the practice of surgery, but cause the operator to seek technically less difficult though less safe methods of surgical anesthesia.

Shock and Anociation

In this connection, one cannot but speak with a feeling of pride of the work of an American contemporary on the great problem of shock, Dr. George Crile of Cleveland, Ohio. Our experiences in the past thirty years and the World War have done much to lessen this *"terror chirurgorum"* and, whether one agrees or not with the scientific theories promulgated by that illustrious surgical mind, Crile, we have learned certain practical truths which anyone can practice whose fingers are not palsied by ignorance or natural clumsiness.

We have learned to operate fast, gently and under conditions which will reduce trauma to delicate tissues to a minimum; and, thereby, to reduce shock, so that it appears no longer as that horror of horrors, second in frightfulness only to uncontrollable hemorrhage.

While we are still absolutely helpless when confronted by a case of embolism, terminating human life in a few seconds, our general advances, better technics and gentle operative procedures have tended to lessen infection and thrombosis, both in frequency and intensity, with the result that we see calamities very few and far between.

Position of Surgery Defined

But, perhaps of greatest importance to all concerned is the view which seems to gain headway from day to day, that surgery is not a science with a fence around and with a sign: "Keep out," meant for all internists, neurologists, etc.

The fence has been torn down. Surgery has begun to be looked upon as an integral part of general medical science, having common interests with other disciplines; and, as a result, the borderlines are disappearing and there is a friendly intermingling of the medical neighbors, resulting in councils for the welfare of the patient.

The *furor operativus,* so common in the

early years of this century, has abated. Everywhere can be noted a saner attempt at conservatism. No longer is an abdomen opened on the supposition that a dyspepsia, which lasts over a week, is a sure sign of cancer or ulcer and that both require the surgeon's knife; and no longer is the brain exposed without a definite diagnosis of a lesion decidedly calling for surgical intervention. These two examples are cited merely to typify the modern spirit of surgery.

No general surgeon will perform a cerebral operation without the advice, consent and aid of a competent neurologist, with the result that the possibility of a diagnostic error is virtually out of the question and, furthermore, that an operation can be more purposive and restricted to the properly localized lesion.

Likewise, the general surgeon no longer rushes the patient with a peptic ulcer of the chronic type to the operating table, because he knows that a gastroenterostomy is not the means of a cure, that dietetic and medicinal measures must be continued for some time, and that the internal treatment, as practiced today, produces eighty-five percent of cures. It is only when the competent internist yields the field, that the surgeon has a right to open the upper abdomen in this class of cases.

Per contra, biliary surgery has advanced in that real surgeons no longer are content to do a cholecystectomy or cholecystostomy for gallstones. It is no longer a question, at least not a vital one, whether one merely drains or extirpates the gall-bladder for cholelithiasis. What is of importance is, the doing of a radical operation with a view of ridding the patient of all stones in the biliary apparatus. This involves the ducts, which are frequently overlooked by even socalled specialistic surgeons

If I were to publish the number of operations I have been called upon to perform for "recurrences" of gall-stones, several Chicago surgeons would not be so cock-sure of their importance or skill.

Our progress with carcinoma has been limited, because the research men have produced nothing startlingly new. With a greater tendency to make use of the Roentgen rays and radium as prophylactic measures against recurrences and metastases, our operative results have become more lasting and better.

Greater ante- and post-operative care, the thorough study of the patient with reference to his general health, the prophylactic treatment of the diabetics, syphilitics, nephritics, and hemophilics, the cooperation with specially trained physicians, and the spirit of conservatism based on a keener appreciation of scientific methods, have made surgery during the past thirty years a well-nigh exact science.

There are still untrodden fields, undiscovered lands, hidden problems to be brought to our full grasp; but, as long as there will be a human race, there will be such problems, and need will exist for still greater discoveries.

Thirty years hence, another will write where I left off. If he can say in a few pages as much as I have said for surgery of the past thirty years, the future will not have been fruitless.

So mought it be!

THE age of Martrydom is not the age of thought. The men who can die for a faith are not the same who can investigate it closely, or judge it fairly. The discovery of TRUTH belongs to an age of inquiry; the promulgation and triumph of a CREED belongs to an age of unasking and unreasoning belief. . . . It is only minds which see but a little way that see clearly and fancy they see all. It is only those who see but one side that can feel confident there is no other.

—Greg. "Enigma of Life."

Blindness of Pituitary Origin and Organotherapy

By DR. MAXIMILIAN KERN, Chicago, Ill.
(Eye Findings by Dr. Emil Deutsch of Chicago, Ill.)

EDITORIAL COMMENT.—The study presented by Doctor Kern shows not only careful clinical observation but also studious and searching investigation into irregularities of even those remote functions that might possibly have stood in relation to the manifest trouble. Doctor Kern is to be congratulated on the ingenious manner in which he solved his problem. We feel certain that his paper forms a very important contribution to the difficult subject or organotherapy. Dr. Kern's manifest bias for difficult and abstruse investigations promises well for his future work which we shall watch with keen interest.

CASES of blindness of pituitary origin are comparatively rare; yet, the authors believe, not so rare as one would be led to assume from the scarcity of the literature on the subject. It is not very unlikely that a comparatively large number of such cases are diagnosed erroneously. In view of the fact that organotherapy can accomplish, as it has in our case, the almost miraculous transformation of a hopeless and pitiful case into one of virtually complete cure, it is believed that the problems involved merit earnest study on the part of the medical profession. This applies not only to general practitioners, but to surgeons, oculists and rhinologists as well. We shall submit the case history first, and later comment on the diverse problems.

History of Case.—Mr. I. H. Aet. 31, consulted me July 15, 1922, for severe headaches and for total loss of vision in the right, and virtually complete loss of vision in the left eye, with which he could poorly distinguish between light and darkness.

Family History.—Father died of apoplexy. One sister died of pneumonia. Mother and two sisters are living and well. Further inquiry reveals nothing of interest in the life histories of his antecedents.

Past History.—Patient has been in good health until his discharge from military service, about two years ago. About that time, he began to complain of headaches of an intense degree. He was operated on for ulcer of the stomach (probably gastroenterostomy), but without any influence on the headaches. He consulted a nose and throat specialist who is supposed to have curetted the frontal and ethmoid sinuses; equally without effect on his trouble. He noticed the development of blindness in the right eye, soon followed by gradual blindness in left eye.

The patient gives no history of symptoms or evidences of lues, but states that he had contracted a gonococcal infection several years ago. A purulent urethral discharge reappeared several weeks ago. Patient smokes moderately and has never been addicted to drink.

Physical Examination.—Well-nourished young man. Skin-subicteric. Heart and lungs, negative. Abdomen shows operative scar and is slightly tender to pressure. Genitalia, normal, except for evidence of a chronic urethritis. Pulse and temperature normal. Blood pressure: systolic, 105; diastolic, 60; mean pressure, 45.

Urine negative. Blood Wassermann negative. Blood shows a leucocyte count of 16,600. Spinal fluid, slightly positive to cholesterized antigen; cell count: 12; Russ Jones and Ponti reactions: positive. A Roentgenograph of the skull shows a comparatively large, eroded and indefinite sella turcica and a shadow around the glenoid process.

Eye Examination—July 19, 1922 (Dr. Deutsch).

Right eye: Slight conjunctival infection.

Cornea, anterior chamber and iris, normal.

Pupil: 3½ millimeters, round, no reaction to light.

Lens and vitreous—clear.

Tension—normal.

Fundus—normal, except for slightly engorged veins.

Muscular movements—normal.

Vision—Total blindness. No light perception.

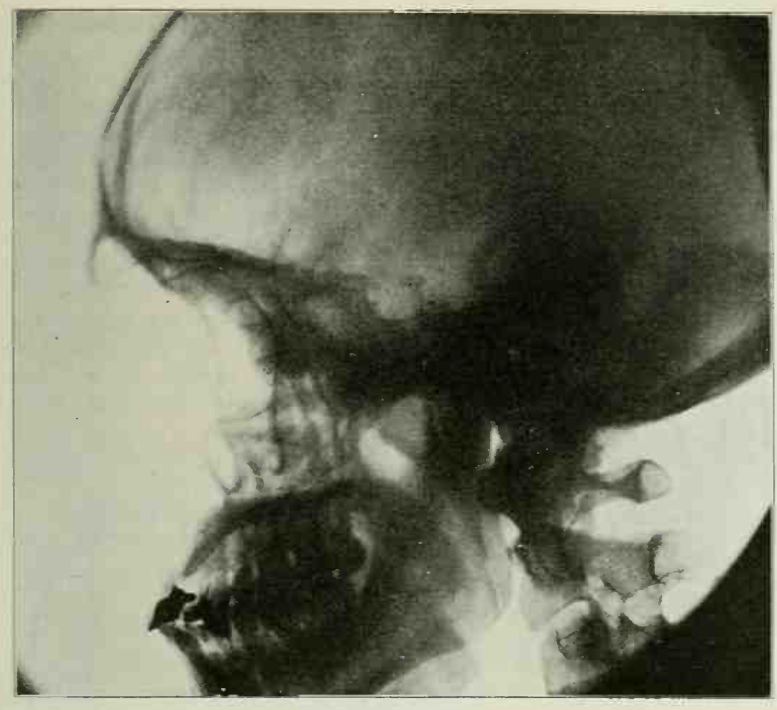
Left Eye: Cornea, anterior chamber and iris—normal.

Pupil—3 millimeters, round, reacts faintly to light, but not to accommodation.

Lens and vitreous—clear.

Fundus—normal.

Muscular movements—slight divergence but no paralysis.



Vision—light perception only nasally.

Examination with Peter's Hand Campimeter reveals a temporal hemianopsia (see Chart 1).

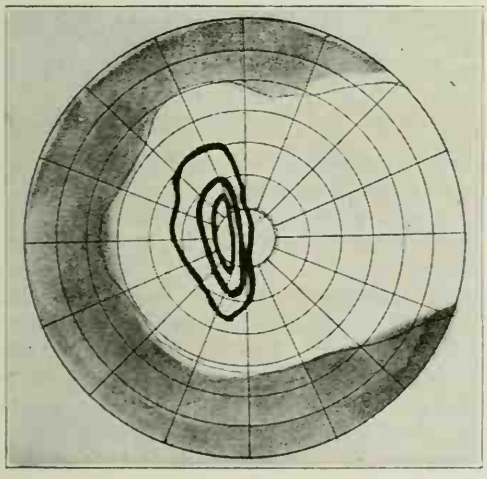


Chart No. 1.

Ophthalmoscopic diagnosis — Retrobulbar neuritis.

The field of the right eye could not be taken on account of absence of vision.

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The examinations conducted so far have not led to a definite diagnosis as regards the underlying or primary cause of the trouble. The pressure of a temporal hemianopsia reveals the lesion to be in or about the optic chiasma.

We have already mentioned that the x-ray findings are suggestive of a pathologic pituitary body. We desired a thorough and reliable rhinologic investigation to complete our preliminary examinations. The patient was sent to the hospital for further observation.

July 21. — Ophthalmoscopy (left) reveals no change in fundus. Vision unaltered, the field shows again hemianopsia, but a more constricted area. Prognosis, very bad, as the progressiveness indicated beyond doubt the fate of the right eye.

Exenteration of the nasal sinuses (ethmoid and sphenoid) was performed by Dr. Frank J. Novak, Jr., this day.

July 22.—Eye findings unchanged.

July 28.—Field of vision improved greatly. Vision—fingers ten feet.

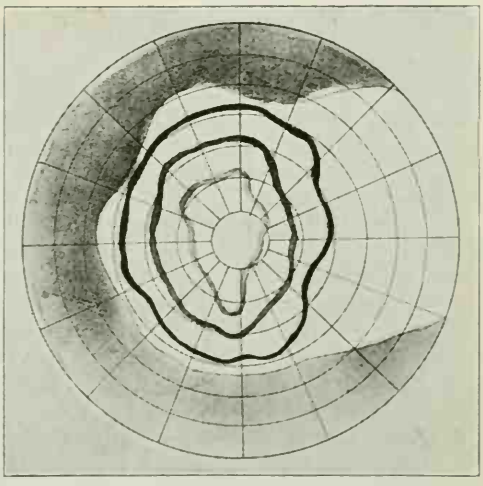

Chart No. 2.

Aug. 2.—Vision—20/100. Visual field shows overlapping of field to the opposite side. (See Chart 2.)

Aug. 15.—Patient complains that his vision is very poor again. Field of vision again constricted to an extent shown on first examination (Chart 3).

Glandular medication, which had been administered since the patient's admission to the

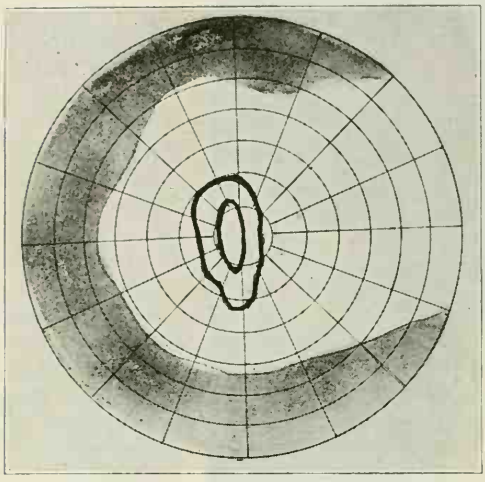

Chart No. 3.

hospital has been withheld for the past five days. To this must be ascribed the retrogression.

Aug. 27.—Patient sees better. Field of vision improved. Glandular therapy has been rigidly carried out, it having been demonstrated beyond doubt that the improvement of the eye, both as to vision and increase of fields of vision, is in direct relation to the administration of glandular drugs.

Aug. 29.—Patient examined at office of Dr. Deutsch. Claims to feel fine. Visual field virtually normal (Chart 4). Vision—20/20. Pupillary reaction active. There still exists some divergence. Examination of the right eye shows optic atrophy with total loss of vision.

Discussion of the Case

The above data appear to be sufficient to convey a good idea with regard to the seriousness of the disease and the astounding therapeutic results produced by organic medication. What the results would have been, had the condition been recognized before total blindness of the right eye had set in, must remain a matter of conjecture, but one is justified in the belief that, even in that eye, the optic atrophy could have been checked and vision restored, as has been demonstrated in the left eye.

If this be so—and there is no cause to assume otherwise—this case is of sufficient importance to invite critical investigation from all angles.

The first and, to us, most important problem presented, is the question of diagnosis. Here as elsewhere, an early diagnosis will lead to early rational therapeusis, be that in the form of surgery or organotherapy, the relative merits of which we shall briefly touch upon later.

Why was not the correct diagnosis made at the time when the loss of vision began to become manifest? Surely, this symptom in itself is of sufficient gravity to compel thorough study and investigation, not only by the clinician but also by an oculist.

While one of us had made the diagnosis with a degree of probability on first examination from the history and negative blood findings alone, certainty was sought and great credit is

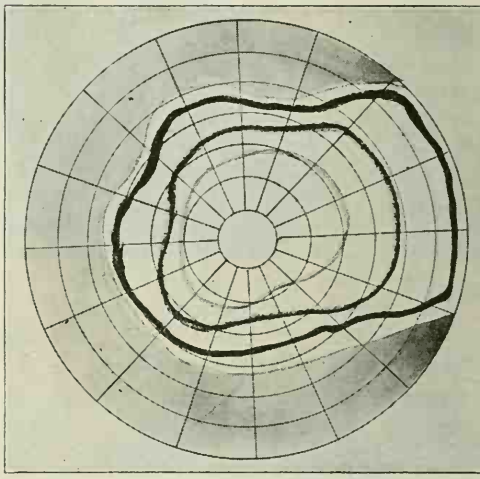

Chart No. 4.

due to the oculists* for their share of the investigation and observation.

From a purely clinical point of view, we can do no better than call attention to the following diagnostic table, taken from "Endocrinology and Metabolism" (Appleton & Co.). [p. 21.]

The ophthalmoscopic investigation established as was already pointed out, that the lesion was in the region of the optic chiasm and, to be more exact, that this lesion, whatever it was, destroyed the chiasm in the median line. Now what are the conditions capable of bringing about such a destructive process? We consider the following to be an exhaustive enumeration:

1.—Tumors of the base of the brain, benign or malignant, especially carcinoma of the sella turcica.

2.—Tumors, inflammation or hypertrophy of the hypophyseal gland.

*My thanks are due Drs. Harry Gradle and Burton Hazeltine, who saw the patient with me and aided me in arriving at a more critical appreciation of the possible problems involved. —M. Kern.

HYPOPHYSIS CEREBRI (PITUITARY GLAND)

	States of Overfunction	*States of Underfunction*
Endocrin System	Enlarged sella turcica, intact or eroded. Occasionally normal sella. [Thyroid struma or atrophy.] [Enlarged thymus.]	Small, closed-in sella, or large eroded sella from tumor. Hypogenitalism. [Thyroid or adrenal symptoms.]
Metabolism	Accelerated basal metabolism. Diminished carbohydrate tolerance. Retention of phosphates and lime salts.	Retarded basal metabolism. Obesity. Increased carbohydrate tolerance.
Bones, Joints and Muscles	Bony overgrowth; enlarged oval, elongated or hexagonal facial skull; enlarged frontal sinuses; exaggeration of external occipital protuberance (x-ray). [Gigantism before puberty.] Broad, thick, spade-like hands.	Dwarfism, if before puberty, or inversion of sex characteristics. Delayed development.
Respiratory System	Enlargement of larynx with low pitched, hoarse voice. [Chronic bronchitis and emphysema.]	
Cardiovascular System	[Cardiac hypertrophy.]	Hypotension. [Bradycardia.] [Tachycardia.]
Blood and Hemopoietic Organs	[Mononucleosis.] [Eosinophilia.]	
Digestive Apparatus	Spaced incisor teeth (hag teeth). Large tongue.	
Urogenital Apparatus	Hypertrophied external genitalia. Diminished libido and potentia (later). Amenorrhea.	Hypoplastic or infantile genitalia; amenorrhea. Diminished libido and potentia. Polyuria.
Nervous System General brain symptoms	Headaches; dullness; apathy. Depression; irritability. [Psychoses] [Epileptiform convulsions.]	Tumor symptoms similar to those of states of overnutrition. Fatiguability. Asthenia. Often slight mental deficiency.
Neighborhood tumor symptoms	Optic atrophy; bitemporal hemianopsia; contraction of visual fields; lesions of other cranial nerves, etc.	Same, if tumor present.
Organs of Special Sense	Eye lesions (see above). Large ears.	Eye lesions.
Integument	Thick, dry, sallow skin with exaggerated wrinkles. Hair, beard and eyebrows heavy and coarse.	Pale, thin, soft skin; [may resemble myxedema or scleroderma]. Hypotrichosis Heterosexual distribution of hair.

Sprunt's Chart, from "Endocrinology and Metabolism."

3.—Gumma or syphilitic endarteritis of the brain.

4.—Meningitis.

5.—Exostoses pressing on the chiasma.

6.—Sclerosis of the external carotids.

While bearing in mind this classification of possible causes, let us recall that the predominant phenomenon was temporal hemianopsia, the characteristics of which throughout the period of observation are graphically shown by the charts.

Now, when we have hemianopsia or, in plain English, absence of half of the visual field, we differentiate, according to the external symptoms, a heteronymous and a homonymous form. In the former, the temporal half of the field is absent. This is the most common form and is found only in the young and middle aged. It is the one observed in our patient.

The better to appreciate the dire results following lesions at or about the chiasm, we must recall the anatomic condition of the visual path. These should be read up in a textbook.

Division of the chiasm in the median line would destroy the conductivity of the decussating fibers. As these supply the inner halves of the retinæ, these would be thrown out of function; thereby suppressing the outer temporal half of each visual field. Of course, inflammation or tumor of the hypophysis may produce such a condition, easily explained by the proximity of the hypophyseal gland to the visual pathways.

Ophthalmoscopy shows that blindness in this class of cases is not due to increased cranial tension, but to pressure on the optic tracts. Papillary edema is, as a rule, absent; primary atrophy, however, is the rule.

Ophthalmoscopy, the Roentgenogram, and the general clinical data should suffice for an exact diagnosis in this class of cases.

Reverting to the causes which may destroy the chiasm, exostoses, meningitis, gumma, endarteritis and sclerosis of the external carotid arteries can be ruled out with certainty. While all factors point to the only remaining affection as the *fons et origo* of the disease.

Hemianopsia of the pituitary type has been described in the literature quite frequently. Cushing tells of an interesting case which, for purpose of comparison with the one under consideration, merits detailed citation.

The patient, a young farmer, sought medical advice for acromegaly. The patient's family history and past history up to his thirteenth year are of no interest. After his thirteenth year, it was noted that he gained in weight rapidly until reaching the enormous increase to 222 pounds. Violent headaches made their appearance and, two years later, gradual loss of vision took place. An x-ray photograph of the skull showed a hypophyseal tumor. Cushing removed a glandular growth successfully, except for hypopituitarism, which necessitated glandular feeding. While the patient kept on gaining in weight, he improved subjectively. Vision returned.

Comparison between Cushing's and our case shows quite a difference in the mode of onset, progress and treatment. We are accustomed to think of endocrine disturbance in connection with acromegaly. We had no such phenomenon in our case. The progress in Cushing's case was relatively slow, in ours comparatively fast, resulting in an early tragedy. Whether or not organotherapy without surgery would have accomplished equally good results in Cushing's case, we are unable to determine, though in the future we shall give this method of treatment a thorough trial before turning the patients over to the surgeon.

In our case, organotherapy, properly managed, has demonstrated in a triumphant manner its tremendous powers for good. It is a far jump between the year 1672, when Lower, in a paper on the origin of catarrh started that "the serum is separated in the ventricle of the brain and is poured again into the blood, and makes weight," and the year 1923, when the pendulum appears to have swung to the other extreme and all solutions of obscure clinical problems are attempted by the new science of endocrinology.

Enthusiasm, fashion and research will, undoubtedly, produce much good and some harm, as there is always great danger of one-sidedness. But, modern medicine has progressed so far that we need not be blinded by the theoretic speculation. Clinical investigations and therapeutic observations can be checked by scientific methods with a degree of accuracy which removes our teachings from the domain of the speculative to biologic reality. It is all a question of individual endeavor properly to utilize the scientific facilities for exact work, in the interest of humanity and the science of medicine.

References:

Cushing, H. "The Pituitary Body and its Disorders." Philadelphia, Stieren, Edw.: "Enlargement of the Pituitary Body." *Amer. Journ. Ophth.*, 1921, Vol. iv—209. Keegan, J. J.: "Neighborhood Signs in Pituitary Tumor," *Am. Jour. Ophthal.*, 1921, IV—835. Cassidy & Gifford: "Apparent Pituitary Tumor with Restoration of Vision." *Am. Jour. Ophth.*, 1922, V—206.

The Use of Paraffin in Treatment of Burns and Scalds

By W. W. SHAFER, M. D., Haines City, Florida.

FROM France, during the latter part of the war, came reports of a wonderful new treatment for burns with a preparation devised by a French physician, Dr. Barthe De Sanford, who had been applying it with remarkable success in hundreds of cases in the French Military Hospital provided by the French Government. Several magazine and newspaper articles appeared in this country relative to the treatment and it was taken up by a number of prominent physicians, among them Dr. William O'Neal Sherman, chief surgeon of the Carnegie Steel Company.

The treatment consists in the application, hot, of a wax-like preparation to the denuded surface. The dressing proposed by Dr. De Sanford is not, of course, in itself a panacea and, as has been shown by the *Journal of the American Medical Association,* the idea itself is by no means new. Yet, it is new to a vast majority of physicians who are unfamiliar with the, often, startling result obtained by this peculiar method of treatment which seems to go counter to accepted surgical practice. To seal up an infected burn, was thought then to be contrary to sound surgical principles. Notwithstanding this, patients were being dressed without pain; they were recovering two or three times more rapidly than under former methods, and were free from cicatricial contractions, with a minimum scar tissue. It must not be assumed that third-degree burns heal without scar, but the resulting scar is infinitely less, and the tendency to contraction, with the associated frightful disfigurements and loss of function, is practically eliminated.

The preparation contains approximately ninety percent of paraffin with the addition of two percent of eucalyptol (which is added to cover the disagreeable odor arising from the burns) and other ingredients that increase its plasticity and adhesiveness, as described by Lt. Col. Hull in the *British Medical Journal.*

I have used several makes or preparations, but obtained best results from that produced by The Abbott Laboratories, of Chicago. However, I also found that the cost of their products is higher than that of others.

I do not want to discuss the pathology of burns and scalds, nor will I allude to the classification except to state that Morton divides them into three degrees, or classes. In extensive burns and scalds, the pathology is practically the same. Usually, we have all three degrees present.

Shock is a marked symptom in all severe burns and scalds, and its development depends upon the location of the burn and the extent of the surface involved. Superficial burns of great extent and those involving the trunk are accompanied by more marked shock than circumscribed burns with deep destruction tissues.

The mortality following extensive burns and scalds is very high. According to Durham, if one-half of the surface of the body is burned, even superficially, death usually results. Nusbaum states that recovery is rare if one-third of the surface of the body is superficially burned or scalded. Death usually occurs within twenty-four hours; that is, before a reaction is established. If reaction is established, death may occur later from exhaustion following profuse suppuration or from septicemia.

Burns and scalds are very fatal in infancy and childhood. In this class of patients, death usually results from shock.

I presume that I have had the ordinary percent of burns that fall into the hands of the general practician. But my success, which was as good as the average, was far from satisfactory to me.

So, when, a few years ago, I began to see accounts of a new treatment for burns in my journals, my attention was immediately arrested. I studied carefully everything I could find on the subject and, as the treatment suggested appealed to me, I prepared for a possible accident. I now desire to report two cases that came under my care in which I used the paraffin treatment as best I could from the information I had obtained from my reading.

History of Case

On April 19, 1919, Willie McCullah, age two years, fell backward into a tub of boiling water, sustaining a severe scald of second and third degree, extending from the gluteal fold to the lower edge of the hair on his neck and reaching halfway around the body on both sides, including the left arm to elbow. There were also first-degree burns of face and scalp involving one-third or more of the surface of his body. This accident occurred soon after noon. I saw him about midnight the following night; found him in profound shock, tempera-

ture 104°, and with indications of convulsions.

As soon as I could, I applied the paraffin-wax remedy which is prepared by The Abbott Laboratories and called by them Parresine. I first cleansed the burned surface with Chlorazene solution, which gives me better results as an antiseptic than anything I have ever tried. Then I applied the melted Parresine to the entire burned surface, using for this purpose a common varnish brush, as I was unable to get a camel's hair brush and was not provided with the special atomizer which, I think, is by all means the best method of applying the wax. This latter causes remarkably little pain when applied to burned surfaces.

One might think that the application of this melted wax might be very painful; but, as paraffin melts at a very low degree of heat, the pain of the application is slight. After this application was made, I covered it with a very thin layer of cotton and again applied a coating of Parresine which then formed a cast. This excluded the air and gave the patient immediate relief from pain. The paraffin-wax was put on so as to extend over onto the healthy skin, as it adheres to the healthy skin quite well, much better, in fact, than to the burned surface.

It is wiser to test the temperature of the wax on your own skin before applying it to the patient, as you will thereby avoid having it too hot.

I was surprised at the progress in this case as there was remarkably little pus formed and the burns were virtually healed in four weeks.

During the first days, the dressing was applied twice each day; later, once a day. The scar was not thick and dense as is usually seen and, consequently, there was very little tendency to contraction.

Another Case History

The second case was that of a married lady whose clothes caught fire from an open stove. This occurred on the evening of December 12, 1919. The burned surface was in the back and extended from the knee of the left leg to above the waist, causing a burn of the second and third degrees, involving a surface of twenty-one by thirteen inches on the left leg and hip and a surface of ten by ten inches on the right hip. Above the waist, there was a large surface of first-degree burn. The hands were also burned in tearing the clothes from her body. There was high fever and severe pain for several days, requiring the use of morphine to give her any rest.

The patient's suffering was aggravated by her being compelled to lie on her face all of the time. On January 1, temperature was normal; there was no pain; appetite was good; she was sleeping well. January 5, right hip entirely covered by new skin, left hip and leg three-fourths covered by new skin. No pain, but she complained of itching. February 8, 1920, the burns were almost entirely healed. February 14, entirely healed and patient doing housework. The same treatment was used in this case as in the first case.

There has been some tenderness in the scar and some itching, but this was relieved by an ointment of lanum and vaseline.

The scar in this case is not dense and there are no contractions, although the burn on the left leg was very deep, going down to the muscle just above the knee.

Since writing the foregoing, I have had two rather severe burns, one in a Negress who was accidentally burned by having a skillet of hot grease spilled on her left forearm and hand; the other in a white woman who had a pot of hot coffee spilled into her lap, causing severe burns of both thighs on the anterior surface. The treatment was the same in all cases and with the same happy results. In the case of the Negress, she greatly feared that the resulting scar would have an unsighty whitish appearance. When healing had taken place, it was with difficulty that the scar could be seen. I believe that this plan of treatment prevents the extensive suppuration so frequently seen with the old plan of treatment and, consequently, the deeper layers of the skin are protected. In the case of the colored skin, the unsightly scar is prevented.

Instead of the very thin layers of cotton used to help form the cast in the dressing, in my opinion, the lace-mesh gauze, as prepared by The Abbott Laboratories, would be preferable and more economical.

How to Lead a Continent Life

Sexual Continence: Its Management and Treatment

By WILLIAM J. ROBINSON, M. D., New York City

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EDITORIAL COMMENT.—The problem of how to lead a continent life is not always as easy as it may appear to those who are restrained by religious motives or by fear. Fear, be it said, very often is a potent protector. Unfortunately, it does not protect one from his own thoughts and wishes. As Doctor Robinson points out, very truly, he is most fortunate in this respect who has found his work and can sublimate his desires in that. Work that is creative, constructive, of absorbing interest and, possibly, work that is occasionally relieved by attention to an equally fascinating hobby or by devotion to music, arts, nature study—in short, anything that deviates one's attention from concentration on one's physical inclination, is helpful.

THIS article has nothing to do with the morality of sexual continence or the immorality of sexual non-continence. Sex morality forms the basis of a separate essay by the author. Nor has this article anything whatever to do with the injuriousness or harmlessness of continence to man's physical and mental health. This also forms the thesis of a separate essay. The subject of this article is just what the title says it is.

It happens that men are sometimes so situated that they are compelled—the compulsion may be imposed from without, may be forced by circumstances, or may be self-imposed—to live a sexually continent life. How can we make the continence least irksome, least injurious, least difficult to bear? This is the important theme of the present paper.

A man may find himself in a small American town where extramarital relations are impossible or are accompanied with great social risks; he may find himself in a barbarous or semi-barbarous country where the women rather repel than attract or where venereal disease is so rampant that exposure is criminal folly indeed; or a man's religious convictions or moral principles may be such as to make him regard non-marital relations as sinful or criminal; or, last but not least, the man's own physical state may be such (to hint at one thing, he may be in an infectious condition) as to make a perfectly continent life imperative.

Whatever the underlying cause may be, thousands of men are forced to live a completely continent life. And they come to us and ask us to tell them how they can carry through such a program with the least friction, with the least amount of struggle and depression. I shall herewith try to answer this question.

Mental Attitude

A thing may be injurious. But, the knowledge or the fear of its injuriousness may cause more injury than the thing itself. This is a truism. The tremendous power of the mind over the body is also a truism and needs no emphasis here. It is therefore important, first of all, to convince our patient that he can get along very well for six months, a year or two, and, under special circumstances, much longer, without any sex relations, and that he will suffer no real or permanent injury. He may feel discomfort, but there is a difference between suffering injury and feeling uncomfortable. It is important to convince him that sexual continence is not at all so injurious or non-feasible as certain sexologists (reacting against the untruthfulness of certain medical theologians who denied the injuriousness of sexual continence altogether) have tried to make him believe. I have had a number of patients who were so habituated to frequent sex relations that they asserted it was quite impossible, quite out of the question, for them to go for a month or two without any. But, when I told them that they were foolish, that I knew better, and that they could get along very nicely for six months without any indulgence—they did so, and were better off for it.

Repeating the platitude: The mind has an enormous influence on the body, and in no sphere is this influence so great as it is in the sexual sphere.

Diet

Diet plays an undoubted rôle in the human libido, and he who wants to or is obliged to live a sexually continent life will have to pay

strict attention to his diet. He does not need to starve himself, but he will need to limit his proteids, particularly his animal proteids, to a minimum. Meat once a day, a small piece. Eggs, lobsters, oysters, clams, crabs, shrimps, all sorts of fish, caviar, shad roe are best left out altogether. Spices and condiments should not be touched at all. Fruit of all sorts, salads (without pepper or spicy dressing), bread and butter and milk, will have to constitute the bulk of the diet. Those who live on a purely lacto-vegetarian diet will be best off in this respect. That alcoholic beverages of all sorts will have to be given up entirely, goes without saying. This alone is as important as all other things combined. But, coffee and tea are also best left out; though weak tea, if not drunk too hot, is the least objectionable.

Smoking

Only on a small percentage of men does smoking produce an aphrodisiac effect. On most men, smoking has a calming, sedative effect. This, however, is not true of women. On them, smoking generally has an exciting effect. Whether the effect is due directly to the tobacco or to suggestion or to the imagination, the tobacco smoke bringing up the image of a male, is only of academic importance. But, non-married women should leave the weed alone.

Bathing

Hot baths are unquestionably injurious for our purpose. That is, they act as stimulants and increase the libido. They must, therefore, be eschewed entirely, especially at night. But, how about cold baths? They are just as bad if followed by a reaction (and, if not followed by a reaction, that is, if the skin does not become warm and glowing, they are injurious in another respect: the patient may get chilled and catch a bad cold); that is, they will act as a sexual stimulant. The only safe way is, to take lukewarm baths, and even those not too frequently—once or twice a week, for cleanliness' sake. Drying shoud be accomplished with a soft towel and no vigorous friction should be used in the process of drying oneself.

Exercise

Exercise is good, but preferably where the upper part of the body is used. Much exercise with the pelvis and the legs is not advisable. Too much walking, particularly if done briskly, bicycle riding, horseback riding, are contra-indicated. Always we must bear in mind that the libido may be excited by local stimulation as well as from the brain. As I say to my continent patients: Work all you want with your head, your throat and your arms, but leave your pelvis and your legs alone.

Sleeping

Common sense will tell you that a man who desires to lead a sexually continent life should not sleep in a luxuriously soft bed, on feather bolsters and cover himself with eiderdown blankets. The bed should be narrow, the mattress smooth but hard and the blanket warm but light. The feet, however, should be well covered; they should never be permitted to become cold. And, there should be no lolling in bed. Go to bed when you are sleepy and get up when you are awake.

Sane Sex Ideas

A man who wishes to live a continent life should be familiarized with the ideas of modern sexology regarding a number of sexual problems. He should have sane ideas about masturbation and nocturnal pollutions. He should not feel depressed and humiliated over an occasional autoerotic act, nor should he get frightened over an occasional night emission. On the other hand, he should know enough to consult a physician if the emissions become too frequent (nightly or every other night); but, even then, he should not become panicky. He should know that the thing can be corrected.

Proper Behavior

It should not be necessary to mention and to reiterate certain points: they are so self-evident. And, nevertheless, it is hard to refrain from making an article "complete." Thus it seems utterly superfluous to state, but nevertheless I state it, that a man who wishes to live a continent life and who will read "Aphrodite," "Painted Veils," or the "Memoirs of Fanny Hill" is simply a fool. The same is true of a man who will attend the Music Box Revue or Ziegfeld's Follies, shows which are more "lewd, lascivious and obscene" in their effect than any book that has ever been written. Nor will our friend who wishes to live a continent life visit any cabarets. As to dancing, that is entirely out of the question. To a sexually continent man, any kind of dancing, be it of the primmest and most old fashioned sort, is injurious. In brief, the man who earnestly wishes to live a sexually continent life will avoid obscene literature, erotic shows, nude pictures, cabarets and other questionable places and companions.

All the foregoing is superfluous, and yet, for completeness' sake, we have to mention it. The obese woman, who was given a diet and who gained fifteen pounds in one month, said that she did not know that that was the only diet she was to live on. She thought she was to have that diet in addition to her regular four

meals. So, you can never be too explicit with some people.

Occupation

Blessed, always blessed, is the man who has found his work, but particularly blessed is the continent man who has found his work. For, half of his battle, more than half, is won. The sexually continent man, who is interested in and who loves his work, has an easy road to travel. He can sublime all or most of his libido into his work, and his struggle, in comparison with the man who loathes his work or has no work at all, will be an easy one. On the other hand, the man who regards his work as drudgery, or who is altogether idle, will have great difficulty in living a continent life. For the idler, it is a practical impossibility. I may add that "the man who has found his work" will find it particularly easy to sublime his libido if his work is of a *creative* character, if it is work to which his name is attached and for which credit is given him as the creator. The sex instinct is a *creative* instinct and it is most readily sublimed into other *creative* work. Socially useful, genuinely philanthropic work is also a splendid substitute for the sex urge. Sincere revolutionists, inventors, discoverers, founders of religions, have no difficulty in leading a continent life.

Medicinal Treatment

It has become a custom with a certain class of half-baked doctors and laymen to sneer at medicinal treatment. This is a proper reaction against the doctors who relied exclusively upon drugs. But they who sneer at drugs and deny their therapeutic value altogether are as much quacks as they whose system of medicine consists exclusively in drugging. Drugs are an extremely valuable adjunct to other methods of treatment, provided they are used judiciously and with proper discrimination. As will be seen, medicinal treatment constitutes, in this paper, as it usually constitutes in all my practice, only one-tenth of the measures used in handling the case. But, this one-tenth is an important part of the treatment, as important as any other part. The medicinal treatment is very simple, extremely simple: it consists in nothing more than in taking a good saline cathartic in the morning. The best saline is the common and cheap magnesium sulphate (Epsom salt), plain or effervescent, or magnesium sulphate and sodium phosphate in effervescent form. The dose should be sufficient to cause one or two good soft or watery movements, and no more. One to two heaping teaspoonfuls in a glass of hot water on arising, is the proper dose and time for taking the cathartic.

No cathartic should be taken on going to bed. It may disturb the sleep and it may, sometimes, cause sexual excitement. The cathartic is important for several reasons: (1) It prevents the accumulation of feces in the rectum, which press upon the prostate and may cause libidinous excitement; (2) it avoids straining at stool, which is, in itself (in adults as well as in children), often the cause of erections and of unnecessary sexual irritation; and (3) it *depletes the system of its libidogenous hormones.* I do not say that this latter is a desirable thing to do under ordinary circumstances; but, for our purposes, it is desirable.

Of course, common sense and decent judgment will tell whether the cathartic is to be used daily, every other day or only twice a week. No system of treatment can be made fool proof, and you will always have to mix your medicine with brains. However, I should like to see anybody with an active daily saline in the morning finding great difficulty in overcoming his libido. Small doses of atropine (1/120 grain), occasionally, will prove useful, particularly where there is posterior urethral congestion.

In this connection, the bromides and that worse abomination, that renal irritant, potassium nitrate (nitre, saltpeter) are only to be mentioned to be condemned. While as an emergency remedy, for a brief period, they may be made use of, they are not to be thought of as a remedy for long stretches of time. To epigrammatize: bromides may be occasionally useful in acute continence; they would be worse than useless in chronic continence.

To Summarize:

Whether absolute continence is desirable or not, whether it is attainable or not, whether it is harmless or not, does not form a part of this paper. The thesis of this paper is: If a man is forced or has made up his mind to live an absolutely continent life, what *modus vivendi* should he establish for himself? The claim is made in this paper that, with a proper mental attitude, proper diet, sane sex ideas, proper behaviour, avoiding all erotic stimuli, with proper occupation and an efficient saline laxative, most men will find the task of leading a continent life and of subliming their libido into higher or other channels a comparatively easy one.

Continence in Women

I have spoken in this article only of man, as if woman did not exist or as if she had no continence problem to solve. As a matter of fact, many more women than men are forced to live

a continent life—live it not only temporarily but permanently, to the end of their days. But, it is universally accepted that women have to do it, and that is all there is to it. If continence hurts them, if it injures their health or their mind, or if it kills them—why, it is sad, but there is no remedy for it. As I heard an old and socalled eminent doctor say: If my daughter were dying from lack of sexual gratification, I would rather have her die before my very eyes than allow her to defile herself with illicit intercourse. And, so think the majority of men—and perhaps women too. The time for discussing female continence has not arrived yet—not in this country, at any rate. Nor does this article deal with the rightness or wrongness, the healthfulness or harmfulness of continence. It deals with its management, its treatment. And this is just as applicable to woman as it is to man. A woman who has difficulty in leading a continent life will find her task considerably facilitated by applying the principles elucidated in this paper.

Modern Treatment of Diabetes Mellitus

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DIABETES mellitus is universally acknowledged as belonging to that group of diseases which are based on an inefficiency of large cell-complexes and is due either to hereditary predisposition or to an acquired external damaging factor. The presence of grape-sugar in the urine is therefore only a symptom of the constitutional involvement and is not the only factor which requires therapeutical attention.

Which particular cell-group is damaged in an individual case, will be difficult to decide. In most cases, the Langerhans islands in the pancreas are affected. These intertubular cell-accumulations of the pancreas abound in capillaries, as every histologist knows, and this abundance of blood explains the increased activity of the epithelium in these regions while, at the same time, it points to the one and only way in which the "mellitus" of the pancreas can be influenced. However, a disease of the pancreas is not the only cause of the appearance of grape-sugar in the urine. Grape-sugar is occasionally concomitant with grave nervous disorders, adrenal tumors, meningitis, carbon-oxide poisoning. However, it is always present in diseases which affect large cell groups. The treatment of these disorders was, therefore, hitherto mainly directed towards a diminution of the increased sugar elimination by dietary measures: unfortunately the success was very doubtful.

Therapeutic Requirements

It is true that an appropriate diet can considerably inhibit or, rather, protract the acid poisoning of the system and can also retard the formation or insufficient combustion of the sugar. However, diet alone cannot altogether do away with it. This explains why modern treatment has taken a different course altogether. It is certain that the larger part of grape-sugar is *not derived* from the carbohydrates of the food (flour, sugar, etc.,) but from the albumin. This points to a strong decrease of the activity of the protoplasm of numerous cells of various organs, which again accounts for the disturbance of the nutrition. Probably, an alteration of the ferment in the serum takes place. It follows that neither an attempt to combat the symptom (the sugar) nor the effort to influence *one* organ alone can promise much therapeutical success. It is rather a general stimulation of all cells that should be aimed at.

The abundance of blood-vessels in the Langerhans islands already shows the way in which this can be attained. A passive or active hyperemia must be attempted with a view to stimulating the activity of the cell-protoplasm. Passive hyperemia, however, is limited in its application; here, diathermy treatment of the pancreas and the liver is most suitable. Yet, a more energetic effect is always attained by active hyperemia which is based on a strong stimulation of the organs. Now, the best therapeutical agents for this purpose are those utilized in modern protein-substance treatment, particularly milk-albumin injections as well as the percutaneous protein application. These effect both an active hyperemia and a strong stimulation of the cell-protoplasm. The parenteral (intramuscular, intravenous, intradermal) administration of protein-substance stimulates all tissue cells more or less equally strongly. The difference in the intensity of the stimulation of an organ varies with its supply of blood. It also appears that a damaged organ responds more readily to these

strong chemical irritations. This reminds one of the fact that a diseased heart-muscle responds to digitalis while the sound muscle does not. For explanation, we must assume a loosening in the structure of the colloids of the superficial plasma layers in the "damaged" cells, into which the proteins can penetrate more easily.

From the foregoing, the modern treatment of diabetes mellitus is based on three points:

1. To effect a hyperemia of those organs which are probably most damaged (e.g., pancreas).

2. Stimulation of the protoplasm-activity of the body cells particularly in the damaged organs, *by parenteral administration of protein-substances* (injections of milk-albumin solutions or percutaneous protein-ointment application).

3. Diet, to inhibit as far as possible the formation of sugar and of acids.

As the modern dietary enforced in diabetes mellitus has undergone considerable change, we may be justified in mentioning it in the following.

Our experiences more or less cover those of H. Schmidt[1]. Overfeeding must be strictly avoided and animal albumin limited to the utmost. However, carbohydrates of any kind may be freely administered. The following table may demonstrate a practical *combination* of dietary measures with protein-body treatment:

1. Light cases of diabetes mellitus (up to 2% sugar approximately).

Diet. 150 Gm. meat (=33 Gm. albumin) 50 Gm. cheese (=11 Gm. albumin) 150 Gm. bread (=13 Gm. albumin) 200 Gm. fruit, 1,000 Gm. vegetables.

Treatment: Once a week, one intramuscular injection of (at the beginning) 1 Cc. of milk-albumin solution and, possibly, diathermy treatment of pancreas. 10 Cc. should be the maximum dose for one injection of a sterile and toxin-free milk-albumin solution. 8 injections in all will generally prove sufficient. Should a patient object to injections, the percutaneous protein administration may be selected. For this purpose, it is advisable to "sensitize" the skin first. We expose the latter in the pancreas region for 15 to 20 minutes to a blue electric globe at 10 to 15 centimeter distance and thereby hyperemize a surface of approximately 15 square centimeters. A 5-% or 10-% protein ointment is then thoroughly rubbed into the hyperemic skin surface. The percutaneous method is best applied twice weekly for a period of two months. Alternate the places of administration to avoid irritation. The skin of arm, back, chest or leg can be chosen.

2. Serious forms of diabetes mellitus.

Diet. Instead of meat albumin, eggs are chosen. 3 eggs, 50 Gm. cheese, 150 Gm. bread, 200 Gm. fruit, 1,000 Gm. vegetables.

Special forms of diet: (a) Vegetables: confinement to room. 3 eggs, 60 Gm. bread, 1,500 Gm. vegetables. (b) Rice diet: 3 eggs, 250 Gm. rice. In serious cases, more than 5 to 6% sugar with symptoms of acid poisoning, two vegetable and two rice days followed by another two vegetable days are prescribed every fortnight. *This is then supported by protein-substance treatment in the same way as shown in the table above.* The injections should be carefully dosed and 5 Cc. not surpassed. On vegetable and rice days, neither protein injections nor inunctions are advisable. The following table, after Schmidt, for comparison may interest in this place:

I. Light Diet:

1. Breakfast: coffee and saccharine, 50 Gm. bread, 20 Gm. butter, 25 Gm. cheese.

2. Second Breakfast:* 1 cup beef tea, 50 Gm. bread, 10 Gm. butter.

3. Lunch. 1 plate soup, 50 Gm. meat, 500 Gm. vegetables, 1 apple.

4. Afternoon:* coffee and saccharine, 50 Gm. bread, 20 Gm. butter, 25 Gm. cheese.

5. Evening: 50 Gm. meat, 500 Gm. vegetables.

II. Strict Diet. Instead of meat at lunch, 2 eggs are given and 1 in the evening.

1. Breakfast: 150 Gm. vegetables, 30 Gm. bread, 10 Gm. butter.

2. Second Breakfast:* 200 Gm. vegetables, 1 egg, 1 glass of wine.

3. Lunch: 500 Gm. vegetables, 1 egg. 1 cup of coffee.

4. Afternoon:* 150 Gm. vegetables, 30 Gm. bread, 20 Gm. butter.

5. Evening: 500 Gm. vegetables, 1 egg, 1 glass of wine.

III. Rice Diet.

1. 50 Gm. rice in beef tea.

2. 50 Gm. rice with egg.

3. 50 Gm. rice in beef tea, 1 egg, 1 cup of coffee.

4. 50 Gm. rice pudding.

5. 50 Gm. rice in beef tea, 1 glass of wine.

References

1. H. Schmidt. *Medizin. Klinik.* Nr. 18. 1921.
2. R. Schmidt. *Medizin. Klinik.* Nr. 27. 1920.
3. Riedl. Can the parenteral administration of casein effect a pronounced protein action by its physical and chemical qualities? *Deutsch. Medizin. Wochensch.* p. 881. 1920.
4. Riedl (Advantages of casein). *Deutsch. Medizin. Wochensch.* p. 881. 1920.
5. van Lier. Uebersicht über Milchtherapie, *Tijdschr. voor Genees Kunde.* 28, II. 1920.

Amnesia and Analgesia in Labor

By F. GROSS, M. D., Kansas City, Kansas

EDITORIAL COMMENT.—This article, which is concluded in this issue, contains an unusually fair, lucid and logical investigation of the merits of the various methods that have veen proposed to alleviate the pains of labor, to lessen shock and exhaustion of the mother while avoiding an excessive rate of stillbirths and of infant mortality. Doctor Gross' report shows a remarkably patient and careful study and a thoroughly fair balancing of facts and of arguments pro and contra. He has done a great service to the general practitioner and to obstetricians in preparing this useful and instructive article.

[*Concluded from December issue, p. 888.*]

Effect On the Infant

This is one of the most important inquiries among the many interesting ones that arise. Many obstetricians have refrained from using scopolamine-morphine solely on account of the supposed risks to the infants. With a haphazard or incompetent administration of the drugs, the plea has doubtless some grounds. But, when it has so often been demonstrated that, where reasonable care is exercised, the risks are no greater than in ordinary obstetrical practice, the medical profession can afford to revise its earlier opinion. The greatest diversity of opinion has hitherto been expressed with regard to the symptoms termed *"oligopnea"* and, what is really a further grade, *asphyxia* or *apnea.*

It is universally admitted that scopolamine-morphine, when administered to the mother, circulates in small quantities in the placenta and, therefore, in the infant. If the effects on the mother are, to induce hypalgesia and to reduce shock and exhaustion, the drug can not fail to produce some measure of the same effects on the infant. It has been the habit of physicians not to devote much attention to the sufferings of the infants during their passage through the parturient canal which is quite often too small for their comfort, and I am convinced that, in ordinary practice, some of the *deaths in stillborn infants are due to the pain and exhaustion consequent upon a prolonged and difficult labor.* Indeed, statistics show that infants may have their chances of life influenced for the better by the protection which scopolamine-morphine affords (always presuming that there has been no overdose), and the fact, that there were 3 percent less fetal deaths than in non-scopolamine cases, is explained on the ground that the slightly delayed breathing worked favorable, by *preventing inspiration before the head was fully born,* thus preventing aspiration of fluids.

In discussing the danger of **asphyxia** in infants, I would like to observe that the critics of this method appear to lose sight of the fact that asphyxia quite commonly occurs in parturition, apart from any treatment of drugs. In fact, I believe that it is never caused by these drugs when they are properly used. Every textbook of obstetrics contains a more or less elaborate account of the etiology, treatment, etc., of the condition, and every obstetrician and practitioner must be only too familiar with it. In the heat of argument, writers have not always distinguished between *asphyxia, or apnea, and oligopnea.* The terms have been used interchangeably, whereas the conditions themselves are distinct.

Oligopnea is a condition of the infant which is apparent immediately on expulsion. An inspiration occurs at once, the infant gives one cry, active movement begins, but the cry and the movements suddenly become abortive. The cardiac action is vigorous and in no way abnormal; but, during the period of suspended respiration, the heart slows a little, to regain its normal rate quickly on the next inspiration. The cessation of respiration may last one-half to one minute, then another inspiration occurs, often accompanied by a sigh. The respiration gradually becomes normal, and the infant usually passes at once into a peaceful sleep. Even with continual advance towards normal respiration, this state may last up to one hour—the general appearance of the infant giving one the impression it is *lazy* and *tired.* The color of the infant in these cases differs but little from that of those born after no administration of drugs. It is very rare that artificial respiration has to be resorted to. Morphine is undoubtedly the main factor in the causation of oligopnea; but, at the same time, it is scarcely possible to dispense with the morphine, because, in the first place, it gives that anodyne effect which scopolamine almost lacks, and so allows an early period of hypalgesia during which the amnesic effect can be easily attained; and secondly, it has the effect of diminishing the tendency to restlessness which otherwise would probably be more common and more pronounced.

A few observers have tried the effect of scopolamine alone, not giving even the initial dose

of morphine, but the desired seminarcotic effect does not appear to be attainable without the combination. In view, therefore, of this fact and of what also seems quite clear now—that the morphine is mainly responsible for the oligopnea—the conclusion appears to be established: *Give morphine only in the initial dose, and reduce the quantity of it to the lowest limit, never exceeding gr. ¼, by which the desired amnesia and hypalgesia can be obtained.*

Other Methods Producing Amnesia and Analgesia

Many observers met with failure, mostly on account of overdosage and paying no attention to the memory test. It is true, the more experience a physician has with scopolamine treatment, the more he will be able to dispense with the memory test, to a certain degree; but, whoever has not an extensive practice and experience, will not be benefited much by a time schedule or a scheme alone. In fact, if he solely adheres to the scheme, the twilight sleep may be disastrous. Since 1919, the Freiburg school is trying a "morphine-poor" twilight sleep, according to the following schedule, which is known as the **"Freiburg Simplified Twilight Sleep"**:

At 8:15 Scopolamine 0.00045 (gr. 1/130) with Narphin 0.03 (gr. ½)
At 9:00 Scopolamine 0.00045 (gr. (1/130) without Narphin
At 10:00 Scopolamine 0.00021 (gr. 1/300) without Narphin
At 11:00 Scopolamine 0.00021 (gr. 1/300) without Narphin
At 12:00 Scopolamine 0.00021 (gr. 1/300) without Narphin
At 1:00 Scopolamine 0.00021 (gr. 1/300) without Narphin
and Scopolamine 0.00021 (gr. 1/300) without Narphin every hour thereafter.

Gauss emphasizes that morphine is not absolutely essential for the introduction and maintenance of twilight sleep, but a small initial dose of 0.01 (narphin 0.03 is equivalent to morphine 0.01, or gr. 1/6) is desirable to hasten the beginning of the twilight sleep and at the same time it is harmless for mother and child. The dose of morphine should not be repeated except: (1) to re-assume the twilight sleep after it has been interrupted for some reason or another; (2) if the pains should be greatly increased towards the end of the second stage (but ether is here more advisable and safer); (3) by abnormal sensitiveness to pains in very nervous women; (4) by great painfullness on account of extraordinary contusions of the soft parts.

We know through the investigations of Holzbach that scopolamine passes to the fetus through the placental circulation and will leave the fetal body inside of twenty minutes through its kidneys; on the other side, Straub has proven that morphine is not excreted by the kidneys, and repeated doses lead to an *accumulation in the fetal body* and can cause a sudden disappearance of the fetal heart sounds on account of heartblock. Large or often repeated small doses of morphine are responsible for apnea, weak uterine contraction and increased operative frequency.

This brings us to the consideration of **Siegel's New Modified Twilight Sleep,** or the "Amnesin-Daemmerschlaf", as it has been used by him and others for a number of years. While his present method has met with great opposition, especially from the Freiburg school, in the past two years, nevertheless, it must be admitted that, after a fair comparison, this method and the before-mentioned Freiburg simplified twilight sleep bring about the same results and success. If Siegel's method were as dangerous as pictured by Gauss during the hateful controversies in the medical press of 1920, such an eminent man as Prof. Jaschke of the university of Giessen would not dare to allow a method to be used at his clinic and, using it himself, if it would not give satisfaction. It must be stated again, in order to meet the best of success, one must master the basic principles of twilight sleep and adhere strictly to all requirements, and individualize where individualization is the best for mother and child, as Gauss and Siegel are doing even with their simplified methods. I refer again to what has been said under narphoquin for the better understanding of the Siegel method, which is as follows:

At 8:15 1-½ ccm scopolamine (0.00045 or gr. 1/130) with 1-½ ccm narphoquin (repres. morphine 0.006 or gr. 1/10)
At 9:00 1-½ ccm scopolamine (0.00045 or gr. 1/130) with ½ ccm narphoquin (repres. morphine 0.002 or gr. 1/32)
At 10:00 ½ ccm scopolamine (0.0015 or gr. 1/400) with ½ ccm narphoquin (repres. morphine 0.002 or gr. 1/32)
At 11:00 ½ ccm scopolamine (0.00015 or gr. 1/400) without narphoquin
At 12:00 ½ ccm scopolamine (0.00015 or gr. 1/400) without narphoquin
At 1:00 ½ ccm scopolamine (0.00015 or gr. 1/400) with ½ ccm narphoquin (repres. morphine 0.002 or gr. 1/32, and thereafter scopolamine every hour, and every third dose combined with ½ ccm narphoquin.

A comparison between the two simplified methods shows that Gauss uses a larger amount of scopolamine and only 1/6 grain of morphine, while Siegel uses a smaller amount of scopolamine and 1/5 grain of morphine *during the first six injections.* As most of the children are

born between the sixth and seventh injections, the results obtained are about the same under either method, with this exception that Gauss reports amnesia in 85 percent, while Siegel has 97 percent. Undoubtedly, the larger portion of the latter is due to the slightly larger amount of morphine used.

The Use of Pantopon

Many observers, and especially in the United States, have lately used pantopon, a Swiss product. In my most ideal cases, I used for the initial dose one full ampule of pantopon (gr. 1/3) with scopolamine gr. 1/140, followed by scopolamine alone in doses based upon the amnesic condition of the patient. Considering pantopon as *the most powerful hypalgesic and analgesic,* I would like to warn not to repeat the dose in the interest of the child.

Pantopon has a big field of usefulness, especially in cases where the onset of labor is more than ordinarily severe and where also the duration is likely to be long. In many cases of rigid os, I have given a single dose of pantopon and scopolamine; and, after an absence of several hours, I found the patient still in partial seminarcosis and with a complete dilatation —showing that the effect of pantopon is certainly more prolonged than that of morphine. Hypalgesia and even analgesia is attained more effectively and rapidly, and the patients are quieter under its influence. Besides this, pantopon has a stimulating effect upon the heart which morphine does not have. At the same time, one must not lose sight of the fact that, the more opium is used, the more we are likely to meet with oligopnea and apnea.

Analgesia and Anesthesia

According to the medical dictionaries, Analgesia means "insensibility to pain" and Anesthesia "a state of insensibility". We have seen that complete amnesia, but not complete analgesia, can be obtained without risk to the infant by the use of scopolamine in combination with the derivatives of opium. If our aim is *complete* analgesia, we must consider the use of a general anesthetic, such as chloroform, ether, ethyl chloride or nitrous oxide-gas.

Indications for General Anesthesia:

1.—Great pain at the end of the first stage or in the second stage.

2.—Great excitability at these periods.

3.—"Tumultuous pains" at any period of labor, especially if the cervix is not dilated or if the head is on the perineum; the idea being, to moderate the power of the uterus and to save it, the cervix or the perineum, from rupture.

4.—To preserve the perineum when the "bearing-down efforts" are too strong.

5.—To eliminate the "inhibition of bearing down" due to the pain.

Conditions:

1.—Labor must be sufficiently advanced.

2.—The pains must be strong and regular, so as to offset the weakening effect of the drug (if any).

3.—In cases of severe hemorrhage, avoid anesthetics, if at all possible, and give ¼ grain of morphine hypodermically instead.

Objections to Anesthetics (esp. Chloroform):

1.—Without doubt, the parturient enjoys a slight immunity from the risks from surgical anesthesia, and obstetric anesthesia is but little dangerous; goiter and status lymphaticus, diseases of the liver, and toxemia, especially of the hepatic type, hemophilia and sepsis contraindicate most anesthetics. Chloroform is especially harmful in such cases, not seldom leading to acute yellow atrophy of the liver, a condition which closely resembles, if it is not identical with, secondary chloroform death.

2.—Anesthetics weaken the uterine contractions (except ether!), pains are sometimes weakened or further apart, hemorrhage in the third stage is more profuse, and contraction and retraction of the uterine muscle is often delayed and insufficient. Ether acts in this manner to a much less degree. On the other hand, when contractions are tumultuous or irregular and too acutely painful, or when the woman will not bear down in the second stage, because of pain in the vulva, an anesthetic will often calm and soothe, thereby actually hastening delivery.

3.—The anesthetic may affect the child and, if administered for a long time, may cause an acute albuminoid degeneration of its vital organs during the first days; but, given as here recommended, the danger to the child is very slight.

4.—Objections on the score of religious scruples, that the pain in labor is "physiologic" and that the mother will not love her child born without pain, need no comment.

Chloroform:—Until recently, the anesthetic which almost universally held the field in obstetric practice was chloroform, as is well known. Fortunately, owing mainly to the concomitant cardiac hypertrophy, parturient women tolerate it well even in the presence of grave diseases. It has the disadvantage that, in an overwhelming majority of cases, the time during which it can be used in a long labor is very limited. The relaxation, which it causes in involuntary muscle fibers, certainly increases the risk of post-partum hemorrhage and is a

further objection. At the present moment, therefore, the choice of an anesthetic in obstetrics lies between chloroform (or ether) and scopolamine-morphine. It may not be strictly accurate to speak of the latter as an anesthetic, but it is convenient to do so when discussing the relative claims of the two. These may be set out in tabular form:

Chloroform:	Scopolamine-morphine:
1. The total time it may usefully be employed is limited.	1. It may be used during the whole process of labor.
2. If it is given in effective doses, it produces atony of voluntary and involuntary muscular fibers.	2. Used in obstetric doses it does not produce atony in either voluntary or involuntary muscle.
3. Especially in the later stages (the very time when it is most generally used) this atony predisposes to post-partum hemorrhage.	3. Atony being absent, there is no increased tendency to post-partum hemorrhage.
4. Pain ceases, but uterine contractions cease also.	4. Pain ceases or is greatly diminished, but the uterine contractions do not cease, as scopolamine is a proven ecbolic.
5. In large dosage causes the same pathological changes that we find after eclampsia, i.e., necrosis of the liver, etc.	5. Does not cause such pathological changes and is an excellent adjuvant in the conservative treatment of eclampsia.

There is perhaps only one indication for the use of chloroform in labor and this is in a case of version, as it causes a more rapid and a more complete relaxation than any other general anesthetic.

Ether.—As before mentioned and as admitted by the greatest number of physicians and surgeons, *ether is the safest of all inhalation-anesthetics.* If properly administered, it is absolutely safe in obstetrical practice where it is used only to dull or relieve the pains, without, or with only a very brief loss of consciousness.

Advantages and disadvantages between chloroform and ether:

Chloroform:	Ether:
1. Is quicker in action, easier to carry, pleasanter to take and seldom causes nausea and vomiting; most surgeons condemn it unqualifiedly.	1. Is slower in action, more is required, it is bulkier and the patients often vomit afterwards. It has proved itself safer in obstetrics, as it has in surgery.
2. In the presence of an open flame, it decomposes into carbonyl chloride and hydrochloric acid, both of which irritate the air passages of all in the room, making the attendants cough and even fatally poisoning them.	2. It is used where it is necessary to operate in the presence of sepsis, nephritis, eclampsia, cardiac disease, goiter, or uterine atony; it may not be used close to an open flame because of the possible danger of explosion.

Method of Administration:—Ether is very rarely given in the first stage, best in the second. The open method is preferred, because, in obstetrics, the carbonization of the blood, so common in general anesthesia, must be avoided in the interest of the child. When these "conditions" are met and the pain begins, 15 or 20 drops of ether are poured on the mask, and the patient takes deep breaths of the vapor; as the pain increases, a few drops more are given; as the pain subsides, the mask is removed. This procedure is repeated until the head is just about to escape from the vulva, when the ether is poured on frequently, and the first stage of surgical anesthesia is reached, consciousness is abolished for a few minutes, during which time the infant is delivered.

All writers admit that ether does not retard the progress of labor "to any extent," but I must go a step further and say: *"ether does not only not weaken the uterine contractions and the abdominal pressure, but ether is a more powerful ecbolic than quinine and a close rival of pituitrin* and, in some cases, the effect of ether on the uterine contractions is so tumultuous and the abdominal pressure so strong that I have been forced to counteract these efforts with 30 to 60 drops of chloroform at the time the head was born, to prevent lacerations of the perineum." I expect to go more fully into the details about this ecbolic action of ether in another paper, when I will report the use of a new ether-inhaler for obstetric and surgical anesthesia.

Nitrous Oxide and Oxygen are generally employed all over the United States, but the general conclusions and criticisms of close observers are: "It is recommended in 'suitable' cases; however, if the first stage is prolonged, scopolamine-morphine is preferred. It is safer than chloroform in all forms of heart, liver and kidney disease except where complete relaxation is desired, when ether is preferable; the prolonged deep anesthesia with nitrous oxide is not safer than ether. For version, forceps, extensive perineorrhaphy, vaginal cesarean section, ether is the agent of choice." De Lee says: "Obstetric analgesia with nitrous oxide requires most minute attention to detail, as well as skill; there is danger of asphyxia to the baby if the mother becomes cyanosed; occasionally, it is necessary to change to ether for actual delivery." Inasmuch as the administration of nitrous oxide and oxygen requires the assistance of an expert anesthetist and on account of the high expense of the gas, this method is not the choice for a general practitioner to produce analgesia in labor.

Ethyl chloride has no field in obstetrics except at the time the head is born, the period of greatest anguish, when it is of great value. Due care, however, must be exercised and under no condition should the total dosage ex-

ceed 10 Grams, even in surgical anesthesia.

Spinal and Sacral Anesthesia have been used to produce analgesia in labor, but the methods are too dangerous to deserve any recommendation. In order to make this paper as complete as possible, we must say a few words about

Hypnotism and Suggestion, which has been extensively practiced in the past three years in Europe and especially at Heidelberg, Marburg and Dresden, by an entirely new method developed by Schultze-Rhonhof at the Heidelberg Clinic. While this method is absolutely harmless for mother and child, and complete amnesia and analgesia can be obtained, yet, not every physician has the necessary qualifications to successfully induce hypnosis, nor is every woman susceptible to hypnotism—it takes individualization. The greatest objection to this method, however, is the necessary time required, in that it takes from 4 to 12 preliminary treatments before labor and the physician's presence is essential from the time the patient has regular pains every 15 minutes until labor is completed, and even for several hours thereafter. With a trained staff of a dozen or more interns and assistants at a hospital, such a method may, of course, be called "the ideal method" by such men as Prof. Menge, Kehrer and even Dr. Lindig of the Freiburg Clinic. It never will be the choice for the busy American physician until Schultze-Rhonhof succeeds in simplifying his present technic, for which, however, we must give him most deserved credit.

Results

After discussing all the different methods by which amnesia and analgesia in labor can be obtained, it is well to give a brief account of the results to be obtained *by strictly following the technic* and exercising the care as outlined before. The following figures are based on the results of more than 75,000 cases reported in the medical literature, at various times, in the past 20 years and treated with scopolamine-morphine (or the derivatives of opium), with and without the additional use of a general anesthetic at the end of the second stage. *Complete amnesia* is obtained in 75 percent (at Freiburg 85 percent), *partial amnesia* in 15 percent and *failures* in 10 percent. There will always be some cases where amnesia can not be obtained, either on account of the short time, in which a few small doses could not work satisfactorily (as amnesia can not be expected if we start the injections in the second stage), or on account of an individual hyposensibility of the mother. There will also always be some cases of extreme restlessness or extreme inertia, and in such cases it is best to give up the scopolamine treatment and be content with an alleviation of pain to a less degree. Any sensible woman will appreciate this, if informed accordingly.

The *average duration of labor* is 16 hours and 11 minutes, which is well within the limit set by other observers for non-scopolamine cases. The *first stage is shortened* by the action of scopolamine, but the *second stage is somewhat lengthened.*

Operative frequency (without forceps) is 10.4 percent (normal 7.8 percent) and *forceps frequency* is 9.6 percent, which is about the normal.

We find *vomiting* in 8.5 percent, *dizziness* and *headache* in 2 percent, and *restlessness* in 7.5 percent.

Oligopnea is present in 13.5 percent, which is hardly more than in non-scopolamine cases, and it can be greatly reduced by limiting the dose of morphine as well as that of pituitrin; oligopneic children show a certain laziness for nursing during the first week.

Asphyxia livida, or apnea, is seen in 5.4 percent and may be due to an overdose of morphine and is best overcome by hot baths.

Infants died intra partum (stillborn) in 1.8 percent and *in the first nine days* in 1.2 percent or a *total* of 3 percent, while the infant mortality in non-scopolamine cases for the same period is from 5 to 7 percent. This low rate of stillbirths is due to the intra-uterine narcotic action of the drug on the fetal respiratory center, whereby the danger of premature respiration and aspiration of liquids into the bronchial tubes is lessened. At Freiburg, today, the rate of stillbirths is 0.89 percent with scopolamine treatment and 1.7 percent without it. *Now what is the cause of this greatly reduced rate of stillborn at this clinic?* Nothing else than the *perfect conduct of labor* with no overdosage of drugs and *controlling the fetal heart sounds* every 10 minutes in the first stage and every 5 minutes in the second stage! If we do likewise, our success in reducing the stillbirth will be the same.

Post-partum hemorrhage is reported in percent; I myself have not seen more than one post-partum hemorrhage in the past five years and this was *after* the expulsion of the *first* placenta in twins and *before* the birth of the second baby. But the hemorrhage in this case must be ascribed to the inability of the placenta site to contract satisfactorily on account of the unborn second twin and not to scopolamine morphine. I make it a routine to give *pituitrin* in all cases *as soon as the head is born,* if none has been given before, and *ergot after deliver*

of the placenta, to avoid a possible post-partum hemorrhage. For five years, I have carried Rissman's aortic clamp in my obstetric bag for safety, but I never had any occasion to use it except in the case before stated. *Manual extraction* of the placenta is not increased; there are *no maternal deaths* under treatment and none as a result of it. *Milk secretion* is not interfered with, the *afterpains* are frequently absent, the *puerperium* proceeds uninfluenced and the drugs in no way affect the kidneys.

It may be remarked here that scopolamine-morphine treatment is particularly valuable in those cases where there is, say, a slightly flattened pelvis; the child is larger than normal; more than an average time is needed for moulding of the head; and there is thus every prospect of a long labor. There seems to be no reason whatever why a case should not be allowed to go on for 48 hours or more *provided* the fetal heart sounds remain normal.

If cesarean section were not, from any cause, discovered to be indicated until labor has begun, or if the decision for its necessity came in the course of labor, the risks would be less under the scopolamine-morphine treatment than in a case being conducted without. Everyone is familiar with the disastrous results of a compulsory emergency cesarean section. One of the grave dangers is the consequence upon futile attempts at delivery, and, as the shock is reduced at least to a very small minimum by scopolamine-morphine, this particular risk is diminished.

Conclusions

We find today a tremendous difference of opinion as regards the relief of pain during labor compared with that of ten years ago. Even those who most strongly opposed the use of drugs producing amnesia and analgesia have taken their stand with those who are exerting every effort to make the labor as comfortable as possible for the patient. After trying various methods, it has been found that *the scopolamine-morphine method is the most satisfactory.* The twilight sleep has long ceased to be an experiment—it is an established thing! We should make every effort to attain the successes of Freiburg along the lines advised by the masters at that place. In other words, we should try to obtain *amnesic* deliveries with or without analgesia. The basic principles and technic mentioned in this paper form the *conditio sine qua non* by which we must be guided. Give the first dose (scopolamine, gr. 1/130, with morphine, narphine, narphoquin, laudanon or pantopon) to a primipara when the *os externum* will admit two fingers; begin as early as possible in a multipara or when the pains are strong and regular every 7 to 8 minutes. Give the second and subsequent doses of hyoscine, gr. 1/400 to 1/300, every hour *but not losing sight of the fact that we should be guided by the amnesic condition of the patient, never pushing* the drug until the patient shows no more signs of pain—the object is not amnesia at any price but temporarily alleviation of pain. Don't repeat the morphine late in the labor—*never* in the second stage. If anything beyond the hyoscine is needed, give *ether during the pains.* Keep the friends away, darken the room and insist on quiet being maintained. Give the patient plenty of water and catheterize in long cases; remove the child as soon as it is born.

It is admitted by nearly all observers that the scopolamine treatment is not only *harmless for mother and child,* if we follow strictly the rules and technic, but is of the *greatest benefit to both.* If the mother knows that she is not going to face an ordeal, but simply going into a peaceful sleep during which her child will be born, there must be a *cheerful prenatal influence* which can only be advantageous. The absence of the fear of labor promises to *increase the birth-rate* and we all recognize that, in a certain proportion of cases, fear of childbirth has been the determining factor in the prevention of conception or the production of abortion. The treatment *induces amnesia, hypalgesia or analgesia,* it *prevents shock and exhaustion* of the mother; it *reduces the rate of stillbirths* as well as *infant mortality* during the first ten days. As every parturient has a right to demand alleviation of pain that strips motherhood of its horrors, it is the indispensable duty of a physician to relieve the woman of suffering and get her through the labor in the easiest manner; and, likewise, to safeguard the interest of her child.

Late Syphilis of the Rectum

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TERTIARY syphilitic changes, such as ulcers, gummata and fibrous hyperplasias, in the rectum, arise sometimes very late in the disease, often after all of the earlier evidences have disappeared. They cause most distressing changes which are likely to be mistaken for tuberculosis or cancer. An indurating edema associated with these changes will further complicate matters.

MacCallum[1] says, "It will be observed, in considering the development of the tertiary syphilitic lesions, that they often arise in places where there were secondary lesions which had healed, and it has been suggested that they are the effect of the further growth of spirochetes which had been left behind in the healing of the secondary syphilis. The evidence is not entirely convincing in regard to this, although there are many well attested cases in which gummata appeared on the site of secondary lesions."

Gummata occur quite frequently in the rectum and may be single or multiple, although Johnson[2] says that the isolated gumma is very rare. It may develop in the mucosa of the anus or rectum, in the connective tissue of the bowel or of the ischiorectal fossa. It is painless, usually about the size of an enlarged lymph gland, but may attain an enormous size. On digital examination, the mass feels like a uterine myoma; or, if several gummata exist and they are small, they feel like peas or marbles beneath the mucous membrane. An area of fibrous hyperplasia extends about the gumma and radiates out into the normal tissue. Thus, the growth closely resembles early cancer by being nodular and freely movable in the submucous connective tissue. Later, a caseating necrosis develops in the center of the gumma, and the tumor becomes soft and elastic. As the tumor enlarges, it projects into the lumen of the bowel and is exposed to trauma and ulceration. The gumma does not abscess or extend in chains and is thus differentiated from an infected lymph gland.

Case C.23 presented a large single gumma. This woman, a seamstress, aged 40, had not been able to work for a year because of pain in the rectum. She had daily bowel movements which were streaked with blood or mucus, but the evacuations were not particularly painful. She had not lost weight. On digital examination, there was found, about two inches above the anus, a large, hard, round, lobulate tumor about two inches in diameter. It wa between the rectum and the coccyx and wa firmly fixed. It was not painful and could eas ily be mapped out. No fluctuating spots wer found. A roentgenogram clearly showed th growth. A positive Wassermann test of th spinal fluid was obtained. A clinical diagnosi of gumma was made and, under treatment, i promptly showed improvement.

If left untreated, softening and liquifactio of the gumma occurs later, with rupture eithe into the rectum or externally on the skin. I the opening be into the rectum, fecal matte may be forced into the pocket and an ischio rectal abscess be formed later. Many fistul may thus appear extending out onto the skin o invading the bladder or vagina. If a gumm is incised, the wound remains unhealed and late becomes surrounded with extensive, dense sca tissue. Finger and Landsteiner[3] have show that gummata contain living spirochetes whic can produce infection in another animal.

The proctitis associated with the ulceratio and cellular infiltration occasions a mucopuru lent discharge, a feeling of fullness in the rec tum, and sphincteric tenesmus. When ulcera tion is marked, a deep burning pain is com plained of. Each defecation is painful and i usually followed by bleeding.

Fibrous infiltration of the rectal coats some times occurs, without distinct gumma forma tion but, instead, a diffusing through all th structures of the bowel, particularly the mu cosa and the submucosa. Multiple syphiliti nodules arise in the mucous membrane, usuall just within the rectum proper, and spread up wards, sometimes as far as the sigmoid flexur or colon. This is a hyperplastic proctitis, diffuse and wide infiltration of the whole wa of the gut, but especially the submucosa, wit mononuclear and epithelioid cells. It soo breaks down into extensive ulcers which ma even surround the rectal lumen. A foul dis charge is present and defecation is painfu Numerous fistulæ develop, some of which ex tend widely out on the buttock into the vagin or urethra. Pain and tenesmus are constan because ulceration is extending in one plac while cicatrization goes on in another. Alter nate constipation and diarrhea occur and th rectum is dilated and hypertrophied above th ulcerated area. Later, the dense scar formatio

about the healing constricts the lumen of the gut and obstruction arises. Although this condition is very exhausting, the patient usually dies of some other cause for which this chronic poisoning prepares the way.

Case A.—A woman, age 42 years, married, two children, no history of syphilis. About three years ago, she noticed a hardness of the perineal body. The vagina seemed hard and stiff; her physician gave her local treatment, but without success. When I saw her, she suffered from obstinate constipation which was gradually getting worse, and a tentative diagnosis of carcinoma had been made. On examination, the anus was found in its normal position. The skin of the perineum and about the anus was rough and wrinkled, dry and thickened, but not sensitive. On attempting a digital examination, I found the rectal wall hard, rough and tight about the finger, making introduction very painful. The narrow, cylindrical three-quarter inch rectoscope was introduced with difficulty. The hardness and fullness of the tissue was greatest at the anus and shaded away for a distance of five inches within the rectum. The examination was painful and, although it stretched the tissues considerably, it did not cause any bleeding. A positive Wassermann was obtained here.

Syphilitic Stricture of the Rectum

Just how frequently syphilis causes stricture of the rectum, is a mooted question. Some authors claim that all non-malignant strictures are syphilitic, while others are equally positive that strictures result from any ulcerative changes regardless of its type or etiology. At any rate, we do find that syphilitic stricture may follow any syphilitic ulcer, as chancre, secondary ulcer, or broken-down gumma, and that it has certain peculiar characteristics. The Wassermann reaction will, however, help us to decide definitely for or against lues in a given stricture. Clinically, however, it is sometimes impossible to say that a given stricture is or is not syphilitic. Of course, once ulceration occurs and septic infection is added, the picture is so confused that a microscopic examination of a piece of the tissue may be necessary for diagnosis. The chancroid, though not syphilitic, is a close cousin and frequently produces a very serious form of stricture.

The discharge of blood, mucus or pus, of which many syphilitics complain during the secondary stage, is often attributed to the mercuric remedies administered, and the probability of the presence of mucous patches or ulcers is forgotten. We do not see stricture patients during the latent or infiltrating stage, because they do not consult a physician until they are suffering from stenosis of the rectum.

Histologically, we find in the syphilitic stricture a chronic inflammatory formation about the blood vessels and within their walls. Especially is this found in the arteries. This obliterating endarteritis is the same as that found in any syphilitic lesion.

The infiltration and thickening of the mucous membrane about the ulceration or about the minute gummatous deposits in the mucous membrane impart a stiff, rough, leathery character to the rectal wall and thereby limit and lessen the distensibility of the rectum. A sanious or mucopurulent discharge fills the rectum. Later, when the ulcer may have healed, the mucous membrane remains dry. The cicatrix is blue-white, dense and hard and usually presents some ulceration at its upper extremity. Syphilitic ulcers are inclined to follow the course of the lymph and blood vessels, and, as that direction in the rectum is lengthwise, the contracted portion is usually tubular instead of sharply annular as we find in the inflammatory stricture. This condition may extend from the anus to the colon, although most syphilitic strictures occur from 1 to 3 inches from the anus. The more recent part of the stricture with its infiltration and proliferation is frequently the most obstructive. Ulceration may also be found below the stricture and, from these ulcers, fistulæ lead to perirectal abscesses or open externally on the skin or into the vagina or urethra.

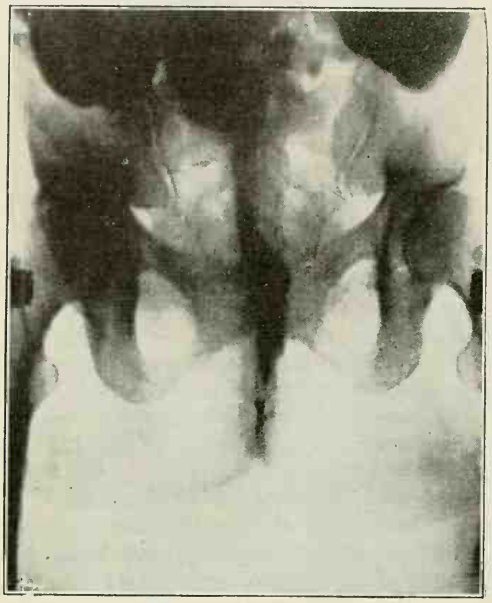
When decided stricture occurs low in the rectum, constipation alternates with diarrhea and the passage of ribbon-shaped or broken stools.

Differential Diagnosis

The differentiation of syphilitic from tuberculous, dysenteric or malignant strictures is a most important factor. Syphilitic strictures usually are long, funnel-shaped contractions with blue-white cicatrices about the ulcers. The edges of the ulcer are never undermined but rather crater-like. In some instances, these dense, white scars can be plainly seen through the speculum in the tissues of the rectum just below the stricture.

Figure 1 shows the tightly contracted rectal lumen of a syphilitic stricture. This woman, Case C.8, contracted syphilis seven years ago, For the past year, she had had pain in the rectum and a purulent, sanious discharge. The bowels are always constipated. On digital examination, the finger, at a distance of one and one-half inches from the anus, comes to a solid impassable stricture. The rectum below the stricture is hard and nodular. The patient has

several fistulæ leading into the vagina and others out onto the skin. These are tender as the digital examination is made. The patient has been on intensive antisyphilitic treatment for some time, and, although her general condition has much improved, the obstipation is still a serious matter and an abdominal anus has been advised.



Pencil-like Rectum of a Syphilitic Stricture.

Not all syphilitic strictures are long and pencil-like in character. Sometimes, the pathology is limited to a small area and the stricture is more annular in character. Here, the differential diagnosis from the physical findings was not possible.

The patient was first seen when acute obstruction had developed and a laparotomy was performed. When the abdomen was opened and the sigmoid was lifted up, it was noted that the hyperplasia seemed largely on one side of the bowel. Resection was performed and subsequent microscopical examination showed that it was not malignant.

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As has been already mentioned, some of the obstructive symptoms result from the inflammatory swelling about the ulcers. This infiltration and swelling of the mucosa is not syphilitic but rather a reaction to the local streptococcus infection. As the luetic endarteritis subsides, gummatous deposits resolve, or the ulcers heal under treatment, the swelling of the mucosa lessens and, sometimes, the obstruction is relieved. Case C.5 presents such a condition: About one year ago, this woman began to have constant pain in the rectum, of a cutting character and with rectal tenesmus. Since then, she passes blood and pus every day. During this time, she lost fifteen pounds in weight. She is 26 years old. A positive Wassermann test was obtained. She was placed on antisyphilitic medication and immediately began to improve. Her appetite returned. She had formed fecal masses which were evacuated without suffering, and she improved in general physical appearance, although the radiograph of her rectal stricture was still unchanged. In this case, the upper end of the stricture is very different from that of Fig. 1. The upper limit of the strictured portion of the rectum ends abruptly and the normal elastic rectum continues. But the distinctly tubular stricture will be noted. Nothing surgical was attempted, the woman improved steadily until she became quite comfortable and finally left our observation.

Congenital Syphilis

Many of the manifestations of congenital syphilis appear about the anus of young infants and may be overlooked or mistaken for simple skin irritations due to lack of cleanliness. The earliest manifestation of syphilis in babies is, an erythema or dermatitis about the anus accompanied with shallow fissures. The anal mucous membrane is also fragile and brittle and the fissures are easily produced by dilating the anus. If untreated, the ulceration spreads. The skin surface becomes copper colored and, later, is thickened and raised and emits a thin, seropurulent and very fetid discharge. The little fissures may extend into the anal canal and may be secondarily infected. As these ulcers or fissures heal, they leave radiating scars (so-called rhagades). All of this change may occur within the first few months of life. It may begin within the first week or may not evidence itself until the baby is two months old, and may be mistaken for the chafing that results from contact with feces and urine; but the latter condition is never associated with the numerous small, shallow anal fissures found in syphilis.

Treatment of Tertiary Syphilis

The treatment of tertiary syphilis of the anus and rectum requires special management of the local conditions. Every effort must be made to prevent septic infection. The patient should be put to bed and the bowels moved regularly and also irrigated. Ulcers should be cauterized. If the ulceration is extensive and the discharge profuse, the sphincters should be dilated to assist drainage.

The systemic treatment consists in the administration of full doses of potassium iodide,

preferably given in milk or essence of pepsin, the dose built up to 60 to 100 grains daily, in small, frequently repeated doses. Mercury should be administered by inunction or by hypodermic injection, because, when given by mouth, it sets up a teasing diarrhea. Hypodermically, I think, I have had the best results with salicylate of mercury. Every patient should also be given a course of intravenous treatment of arsphenamine.

Locally, ulcers should be carefully and persistently treated. Daily dilating does much to reduce the local capillary congestion, but it must be carefully performed for fear of lacerating the mucosa or even tearing through the bowel wall. These strictures must not be cut, as they invariably fill up with granulations which contract further. Their pathology is not wholly syphilitic but has added septic infection. Posterior proctotomy, excision of the diseased field, or the construction of an abdominal anus may be necessary.

References

1.—MacCallum—Text-Book of Pathology.
2.—Johnson, A. B.—Surgical Diagnosis.
3—Finger & Landsteiner—*Archives Derm. u. Syph.*, 1906; (XXVII, 335).

Memoirs of the World War

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[*Continued from December issue, p. 905.*]

CHAPTER VIII

Evacuation of the Sick and Wounded

THE cars containing our personnel and baggage were coupled next to the locomotive as part of a regular French passenger train. After a delay of about half an hour, we started for our destination, and arrived at Nevers a few minutes before midnight. At the station were Colonel Ruffner and his able assistant Captain I. C. Clark, an officer who had proved very helpful to me during my service in Autun, and we had a pleasant chat.

Near the station, there was music and dancing, the New Year being thus ushered in. The train was not to continue on its long journey until 5:00 a.m. Officers, nurses and men went to the Red Cross canteen for hot coffee and midnight luncheon.

Our journey was marred by our witnessing a fatal accident. In front of our train, which had halted at a station, an American soldier tried to cross a track. Whether he knew that an express was approaching or not, I cannot tell; but I saw a figure in khaki make a somersault in front of the engine. As soon as the train had rushed by, I left the compartment. They had my unfortunate countryman on the platform; he was already covered with a blanket. I could only confirm his death.

Before we started, I had issued stringent orders that any man leaving the train without permission would be court-martialed. I also forbade the men to lean out of the windows. There was much to attract them, and my orders were not liked. But, after this accident, all became very docile; the reason for my order now being appreciated by them by reason of this horrible accident. At every halt, I looked through the window to see that my orders were being obeyed. An hour or so after the fatal accident, I stood near the window. The train lurched forward with a jerk. I was thrown against the edge of the frame and my forehead showed a beautiful swelling and discoloration for the next few days.

At 7:00 p. m., our train entered the railroad station at Tours. Again, there was to be a delay until 6:00 a.m. I directed a few soldiers to remain on guard, the rest of the detachment being taken to barracks for a night's rest. Officers and nurses were advised to seek hotels. At the station, I had to show my telegraphic travel order and this enabled the officers to pass into town.

As for the nurses, they could not enter town until each produced a travel permit in addition to their identification papers. The man who called for it was in civilian clothes, a non-commissioned officer of the Intelligence Corps.

"Why, this is the worst nonsense I ever heard. These ladies are part of my command. We are under orders to proceed to Bordeaux. We are en route in obedience to this order. We are not allowed to remain on the train and they cannot enter town. I may add that, even if I had known about travel permits, I would not have been able to secure them."

"Sorry, Sir," the sergeant replied; "but these are orders. Nurses cannot travel otherwise."

"Under whose orders do you work?"

He named the official.

"Please call him on the phone and convey my compliments to him and my opinion that he is an unmitigated ass!" There was some frantic telephoning. The chief nurse undertook the

job of going through a town in almost complete darkness, to lay down a sacrifice on the altar of the god labeled: "Official Red Tape."

The sergeant realized my position and my cause for vexation. He was polite and asked me to step aside. "I want to apologize for my persistence, Sir, but I had no alternative. However, there is a reason for all this. We cannot be too careful. You have no idea what troubles we have with nurses traveling all over France without authority."

I did not believe him, though I pretended to do so to end the discussion. I had dinner in town. The nurses were lodged in a Y. W. C. A. hotel, but, no matter what hotel I tried, I was invariably given the stereotyped information that the hotel was full. I tried a small one. The owner had a small room at the price of thirty francs. I did not care to be robbed to that extent for five hours' sleep and went back to the station. I found the train, crawled into my compartment, stretched out on the bench and went to sleep.

Bordeaux

At 5:30, all officers and nurses were in their seats. We arrived at Bordeaux at 9:00 p.m. The hospital which, we learned, was located in a suburb, was telephoned and we were told that ambulances and trucks would be sent for us. When we reached the hospital, it was about 10:00 p.m. All I saw, as we entered a park, was a small three-story building, and I was not impressed. However, I guessed that I saw only the front part. Our reception by the officers was formal. I asked that nurses, officers and men be furnished supper. The nurses were taken in tow by a representative of their corps. We officers received something to eat. I was astonished to hear that the distance to the officers' quarters was too great to be made on foot and that ambulances would take us to the other side of the park. It was too dark to estimate the extent of the grounds; but, the next morning, I endeavored to find the office building and lost my way.

My first impression was that the institution was almost uncanny in size and I have since heard many a visitor express himself likewise. It actually required a few days' time before I was oriented and knew the extent of the camp. As institutions of such size are not seen in civil life and as I have reason to believe that the hospital at Bordeaux was the largest single-unit hospital of the American Army, a brief description may not be amiss.

A Huge Army Hospital

The hospital occupied two parks. One belonged to the Ministry of Public Instruction, the other to a widow. The principal building was a three-story "E"-shaped college for boys; 625 feet long. It contained the administration offices, store rooms for clothing, dispensaries, laboratories, morgue, shower-baths, all on the lower floor. The two stories were utilized as wards for officers, nurses and women workers, and for enlisted patients. One section was assigned for prisoners of war, sick military prisoners, and the insane. An enormous barrack facing the center of the building contained the central kitchen with a capacity for feeding more than two thousand individuals. It contained the most elaborate refrigerating plant that I had ever seen, even in large hotels; store rooms for food, a small butcher shop and kitchen and dining hall for the nurses.

At some distance farther south in the park, was a permanently built chapel (Catholic) and, clustering around it, eight barracks, each one 105 feet long and 20 feet wide, which were divided in separate rooms for the nurses. These were equipped with lavatories and shower baths. One of these barracks served as a nurses' clubhouse.

These as well as all barracks on the ground, except the Y. M. C. A. buildings and barracks for enlisted personnel, were of brick with wooden floors. All inside walls were plastered smooth. There were seventy-seven barracks in irregular groups. To this must be added three warehouses, three kitchens, two mess halls, one power house, a garage, an animal house and several shops. A private, three-story residence afforded quarters for the staff. According to the official map, the park occupied more than sixty-seven acres of land.

By utilizing all available ground for large tents—we used sixteen socalled ward-tents for convalescent and venereal cases—I could have arranged for a maximum of nine thousand patients without crowding.

Settling Down to Work

The telegram directing my organization to proceed to Bordeaux contained the phrase: "to relieve the original personnel of Base Hospital No. 6." The commanding officer of the hospital at first interpreted this to mean that we came to help out and that our identity as a unit was not to be maintained. There was also doubt in my mind, and I allowed him to assign my personnel according to their respective specialties. But, within a few days, the situation cleared up. Instructions came to transfer all patients and records to Base Hospital 208, on completion of which the institution was to be controlled by us. All personnel not part of the original unit were to be absorbed by us.

To augment our personnel, a hospital unit consisting of twelve officers, thirty odd nurses and approximately forty-five enlisted men was ordered to the hospital for duty. Two rooms were assigned me in the administration building. In one, I established my temporary office and quarters; in the other I placed my clerks and such documents as we had taken along from Autun—practically a wagon-load of records.

The chief surgeon of Base Section No. 2 (headquarters, Bordeaux) was General Robert E. Noble. I had once met that officer in Camp Logan, while he was on a tour of inspection. For a long time, he had been associated with General Gorgas in the Panama Canal Zone. I called on him twice to pay my respects, but he was out. His assistant, Colonel Coburn, a young regular-army officer, received me cordially, though my own status was then in doubt.

I was at work at my little desk when the door opened and a general with the insignia of the medical corps entered with outstretched hand. I recognized General Noble and came to salute. Let me state right here that, from that moment, General Noble was kindness personified. At that time, I did not foresee that I would have many troubles and perplexing problems to solve. I called on him often—too often, I thought—for aid and advice and, in every instance, I received what I asked, to say nothing of cordial support when I had to maintain discipline under trying conditions. Had it not been for General Noble, I should doubtless have broken down under the excessive strain, and it was only when he assured me that my measures met with his approval or when he suggested other measures, that I went back to my task refreshed and encouraged. I shall later tell of my relations to the Chief Surgeon's office; General Noble was my immediate superior, located in the same city and, to my last day of life, I shall feel nothing but deep gratitude for this able officer who was far-seeing and just.

It was estimated that it would require two weeks to check the records and property to be taken over by us. That program was carried out without a hitch, and, under telegraphic authority, at midnight of January 15, I took command of the hospital. I utilized this period of transition to become familiar with the grouping of the patients, with the huge equipment and with the morale of the personnel.

Base Hospital No. 6, commanded by Col. Warren L. Babcock, a physician of Detroit, had one great advantage in that the senior members of the staff were prominent Boston specialists, the original personnel having been recruited from the staff of the Massachusetts General Hospital. These men showed my senior officers all patients, their methods of scientific records and the examination of the permanently-disabled for discharge.

There were some minor changes which, I decided, would increase efficiency. As one who had enjoyed the benefits of six years of military service, I decided that discipline among the patients and personnel should be improved. This should not be interpreted as in any way reflecting on the value of the great services rendered the army by that unit. It was a question of difference of opinion from purely military viewpoints, as I was firmly convinced that a military hospital had also certain military functions.

Finally, it could not escape me that some officers, nurses, and enlisted men were so filled with the desire to go home that they did not perform their duties with enthusiasm. When I took command, my seventy-odd men became a negligible quantity, for the detachment was increased to over five hundred—more than many a regular-army regiment even as late as 1916. There were seventy medical officers attached and nearly two hundred nurses—truly a substantial family. It was apparent to me that something must be done to arouse enthusiasm.

I do not enjoy what some people call a 'magnetic personality.' Educated in the school of hard knocks, deprived since my fourteenth year of paternal control and protection, and thrown on my own resources; I have known the bitterest phases of life. Since early manhood a military enthusiast, I realized one thing even before I became identified with the military service; namely, that official duty means a responsibility which is exceedingly exacting. In civil life, one is one's own master. If one shirks his duty, he experiences a personal loss. In military life, one has a trust. To betray that trust, is worse than felony. Such is my creed.

Enforcing Discipline

The first officers' meeting, immediately after luncheon on January 15, was attended by all officers on the post, including the outgoing officers. I expounded my creed. I did not forget to pay tribute to the distinguished gentlemen whose burdens we had assumed, but I also announced my policy of undivided devotion to duty, of a rigid military discipline. My demand that all patients physically able should be held to salute passing officers was based on the opinion that they represented a future military asset which must be preserved.

The address was received with great enthusiasm. Officers, whom I had not seen before and who were soon to leave, came to me and told me that, had that kind of a talk been given them when they first entered the service, they would have been better officers. One of my older officers called on me during the afternoon and told me that I had won over all new officers to my way of thinking, and that they pledged themselves to serve under such a commanding officer.

"That's all wrong," I replied, "and I wish, when you have a chance, that you would impress on them that I meant it when I said that they are serving not *under* me but *with* me, and that we all are serving the Nation. Let them do their duty—I will do mine."

Some time later, reports came to me that a number of enlisted men had committed serious infractions of discipline. Some ward orderlies did not report for duty on time; others left the wards without permission; and some overstayed their pass limits. I was determined to bring down the summary-court trials to the minimum. One officer had been busy every morning trying from five to ten offenders, patients as well as personnel. These men had received fines or sentences of brief confinement.

I found on my desk such sentences submitted for approval. A summary-court record does not contain the testimony, but shows only two entries: Plea—guilty (or not guilty) and the finding. If the trial officer finds the accused guilty, the sentence follows. As commanding officer of the post, I could approve or disapprove, mitigate or suspend sentence; but, in the absence of recommendations, I could not but accept the opinion of the court.

In Autun, we had had virtually no summary court. Company discipline had proved sufficient. I called the detachment commander for a conference. Then I learned the true state of affairs. Among the five hundred men were many rough characters with whom little could be done. I thought for a moment.

"Have every man in the Y. M. C. A. tomorrow, at 6:30 in the morning!"

This was the time when the night orderlies were about to get off duty and be relieved by the day shift. It was a bitter cold morning. I recollect that I nearly froze on the way from the administration building to the hall. When I entered, the first sergeant commanded attention. I held them in that position until I was through.

I spoke to the men as a father does to children. I explained to them that good and obedient men would be rewarded, but that army authority is strong enough to send any man to the rock pile for three months for neglect of duty or disobedience of orders, and that, while it was not my desire to be harsh, especially with men who might not realize what the Articles of War meant, there would be no excuse. I had warned them. Repeated offenders would be sent up to higher military tribunals. I would serve only with clean, patriotic men; all others would be sent where they belonged without further compromise. They could choose.

This, too, had the desired effect. We had two criminals in the command. One had committed a serious offense on a civilian. He disappeared and I never heard whether he was apprehended or not. Another stole money and valuables from a patient who was sent to the prison ward while drunk. He was turned over to the base authorities for trial by General Court Martial. With these two exceptions, there was no serious trouble after my talk.

The Nurse Corps

Since my return to the United States, I have heard all sorts of remarks about the lack of discipline in the nurse corps. I, too, had trouble with a few of them, but these isolated cases cannot possibly reflect on the more than twenty thousand women who came to France to serve their country. When I left the front for hospital duty, the nurse corps was headed by Miss Julia C. Stimson, who enjoyed a splendid reputation as a leader in her profession. She was a woman with a broad horizon. Her first assistant, Miss Blanche S. Rulon who, in civil life, was head of a large institution, came to my hospital on official business and we went over the entire situation. I found her a broad-minded, capable woman who needed but a few minutes' talk with a nurse to estimate her true character.

My first chief nurse came with a unit which desired to remain intact. There was no question that that unit was composed of efficient personnel; but, in spite of the fact that I had given the leading officers of that unit the most responsible positions (for, I felt that their situation was not ideal), a number of complaints came to me that there was much dissatisfactoin among the officers and nurses. The unit believed that it had been sent to Bordeaux to run the hospital and, finding the relation otherwise, discontent resulted. It was a daily experience to hear an officer or nurse say: "Oh, we don't belong to Base Hospital 208, we belong to Unit * * *." The result was friction, jealousy and barrack politics. When I became convinced that, in spite of the fact that I had

done all I could for them, harmony in the big family could not be attained, I went to Tours and laid the situation before the Chief Surgeon's hospitalization officers. These gentlemen realized my predicament and the entire unit was ordered home almost immediately. After this, a regular-army nurse, Miss Mary C. Beecroft, was sent to the hospital as chief nurse. This young woman realized at once that the unification of nurses gathered from other hospitals represented a difficult task.

A certain hospital was dissolved. Of the more than one hundred nurses, a certain portion were distributed among newly-formed hospitals. Their loyalty to the original organization remained unshaken and, when they learned that their old unit had been ordered home, they used every influence to be relieved. One could not please women in such a frame of mind. Miss Beecroft, despite her ability as an executive, could not but suggest that these women be ordered home and others sent in their place.

Before the armistice, the women worked day and night, often close to the front under trying conditions. Now, the general desire to get home developed as an epidemic of nostalgia. Others desired leaves and especially to Paris; but, under regulations, such leaves could be doled out only in homeopathic doses. The majority of the nurses were refined women. Their relation to the officers and men was proper. That such contact in a strange country often resulted in love affairs, is natural. Cupid found a fine place to work in, and he worked. The many marriages between nurses and military personnel prove this.

Just now, the question of rank for nurses has been brought up, on the ground that rank is necessary to insure obedience. It strikes me that nurses are not in a position to issue commands. Professional orders are given as a matter of delegated authority. But, in my opinion, the chief nurses should have assimilated commissioned rank, according to the positions they occupy.

In my judgment, the supervising nurse of the army should have the pay and allowances of a major, her assistants those of captain. A chief nurse of a general or large base hospital should have the rank of first lieutenant, while her assistant and chief nurses of camp hospitals should receive the rank and emoluments of second lieutenants.*

The pay of all other nurses should be increased. Much dissatisfaction was caused by the fact that women, who were assigned as reconstruction aides, received more pay and higher travel allowances after but three months' preparatory training, than the army nurses with a three-year course of training behind them. With the exception of a comparatively few poorly-trained women from small private hospitals, the nurses have demonstrated their worth and deserve recognition.

*Since the above was written Congress has granted assimilated rank to *all* nurses. This, in my opinion, will not work out well.

Difficulties of Administration

The control of an immense institution, such as we had at Bordeaux, was a difficult task for one man. Under regulations, the commanding officer is responsible for everything that is going on in the hospital, the proper admission of patients, their care, the quality and variety of messes, the economic use of funds for purchases, cleanliness and discipline in the wards and outside of the buildings, and the exactness of the reports. For all these and countless other things, the heads of the hospitals are the persons held responsible. Skillful and faithful department heads, assistants and subordinates are essential for success.

In a perfect organization with trained and trusted assistants, the commanding officer has, if he is a man of initiative, a comparatively easy task. In the regular army, the daily reports on personnel, properly grouped, the reports on equipment and even the scientific reports are signed by commanding officers as a mere formality. They know that their subordinates can be depended upon, for to them it is a question of career, of their daily bread.

In Autun, too, I had comparatively easy sailing. By working sixteen hours daily, I managed to see every patient myself, and not a report went out of the office without being verified by me. I even did professional work, especially when some unusual operation had to be performed. Not a report came back for correction.

I had not been in Bordeaux very long, when I opened an envelope from General Headquarters marked "confidential." In the letter, I was called to account for a report that an officer had been reported dead, whereas a later report showed him to be returned to his organization to duty. Meanwhile, a cable had been sent to the States which caused unnecessary suffering to his family. It is hard to describe what I felt. I am not the man to shirk responsibility. My only hope was, that headquarters and not the hospital had committed an error. I rang for the clerk who handled the death reports. He brought in his file. On the date given he had no record of such a death. I sent for the statistical clerk. His carbon copy for the daily report of admissions, discharges and deaths

showed that, over the officer's name, appeared the word—"Died" instead of "Discharged."

The personnel adjutant had signed the sheet without checking the list. He had evidently been anxious to quit the office to attend some social function. There was no use, I said to myself. After all I had preached, women, wine and song proved stronger than my admonitions. What does such a young man care? The more quickly he gets out of the drudgery of army life, the better he will be pleased.

For a while I thought of resigning. Even General Noble could not help me in such a predicament. Whose fault was it? Mine, of course. I wrote a letter to headquarters, read it, tore it up. I tried again. No, cold formality will not do. My third effort satisfied me.

What headquarters thought of my explanation, of the disciplinary measures I had taken, of the methods adopted to prevent recurrence, I do not know. For, even in Chaumont they were human beings and they must have realized that even a commander with the best intentions cannot control every act of his subordinates who either have no ability or no love for the service.

That night, I did not close my eyes. I smoked in bed and tried to sleep, but the letter weighed on my breast like a ton. I paced up and down in my cold room. I made up my mind to reorganize my whole clerical force and to check every report myself, if I had to quit eating and sleeping.

Evacuating Patients

Reorganize! That is an easy word. Among my hundreds of men, very few could handle a typewriter and the work was terrible in quantity. We had instructions, to cite an example, to send in less than twenty hours a thousand patients to a steamship for evacuation to the United States. There were countless formalities to be complied with. First, the proper patients had to be selected. Those who were longest in the hospital came first. The patients could not be selected at random; for, the instructions read to send so many bed-ridden (stretcher), so many ambulatory cases still requiring dressings, so many suffering from tuberculosis, and so on. These men had to be furnished with new clothing, underwear, socks, toilet articles. They had to receive full pay if they had their records, or part pay if they had none, and these payments must be entered on provisional service records. Passenger lists properly classified had to be made out in at least twelve copies. Multiplying machines could not be used, it had to be done by the typewriter. A misspelled name, a wrong serial number meant trouble. My evacuation officer, Lieut. Clarence H. Peterson, a mere boy, but recently commissioned from the ranks in the sanitary corps, worked like a beaver. I trusted him implicitly because his devotion to duty was boundless. I had told him once that there had been criticism by the navy, that a slip-up would mean disgrace to me, and his eyes shone in enthusiasm as he assured me that I could rest easy. Neither women nor pleasures attracted him while he was on duty. With men like young Peterson, I would have had the best organized hospital machine in the world, and I could have felt the joy of existence. But, there were few like him.

Each patient had to be tagged showing name, rank, and the disease for which evacuated. Often, the diagnoses were spelled in horrible fashion. The clerks were not advanced medical students and did not have time to look up the Latin terms. Still, each patient had to take a copy of his sick-and-wounded card with him. Here the diagnosis must be exact. Stage and character of the disease had to be given. For example, it would not do to show inflammation of a joint only, or its technical equivalent, arthritis. We must show whether the inflammation was acute, subacute, or chronic, whether it was an inflammation with pus or serous fluid, and what joint or joints were involved.

The thousand cards in duplicate were finally finished in the evening. It became evident that the ward surgeons had never read the instructions in the Manual. I took off my coat and went to work. Here I found a faulty diagnosis, there an error. One officer reported a soldier one and one-half years old and twenty-seven years in the service, when the data should have been reversed. For Americans, the space marked 'nativity' should show the state or territory; instead, some put in "U. S." Other more important errors had to be corrected.

To check in detail a thousand cards containing half a dozen data, to sign my initials two thousand times, meant to work from five or six in the afternoon until seven the next morning, with breakfast served at the desk.

Training Officers in Paper Work

After such an experience, there was only one thing to do—officers' meetings were transformed into officers' schools. Hours were spent in practice with all possible imaginary diseases being recorded as prescribed.

The field cards of the patients were to contain very brief descriptions of the principal phenomena of the disease, and the measures of

treatment, the object being to send them with the patients in the event of transfer to another hospital, so that the surgeons would know something of what had taken place before.

Interns in civil hospitals are trained to write up "clinical histories." We had special sheets for that work. These were to remain in the hospital. On one of my early inspections, I not only looked in the wards for cleanliness and discipline but through the records. I became convinced that few had the knack of properly filling out the field cards. One physician, to illustrate, not only gave a lengthy description of the physical findings in a patient suffering from bronchitis due to gassing, but, under treatment, gave the ingredients of a cough mixture he had prescribed, with the result that the entire card was filled up with nonessentials. It would have been sufficient to let his successor know that he gave him an anodyne expectorant mixture, after noting the diagnosis and principal symptoms. I had to institute another course in "case reporting on field cards."

Kitchen and Mess

We had five kitchens for the hospital and one for the staff. With the last, my connection was that of a guest, though as post commander I frequently inspected it. I paid my bill, like other officers, and, when the food became monotonous, I grumbled like the rest and encouraged changes in the personnel, until at last I prevailed upon my mess officer to add to his many burdens that of feeding us. From that time on, we had no trouble. Why? Because the mess officer (Captain James W. Reese) had a big machine developed and could buy more economically wholesale than his predecessors who bought foodstuffs whenever they could get them. But, until that machine was developed, one had to watch the kitchens with Argus eyes. Frequently, I would walk into a kitchen unannounced and eat a full meal. One could not even trust the daily menus which were sent to my desk a day before they were served; for, what may appear inviting on paper, not infrequently proved uninviting and indigestible. We had eventually very fine messes. Officers and men who are kept busy have no time for self-pity, but patients who have time hanging heavy on them soon become disgruntled, no matter how good meals be served.

Recreation and Occupational Therapy

Much was done to insure healthy recreation. The Red Cross women maintained a theater, arranged for concerts and dances. During the warm season, baseball afforded healthy distraction. Men were afforded opportunities for education. Women were sent to teach architectural drawing, painting, sculpture, and what not. With one exception (and she was quickly relieved) these young women proved very useful and I supported their work by affording them space and material. Not one of the pupils was ordered on fatigue detail. Some women instructed the men in useful crafts. Even those who were bedridden used their hands in bead work or manufacture of small toys. Only the blind (we had six of them) did not get as much to do as the others. My friend, Captain Henry R. Lesser, a noted eye specialist of New York, did everything possible for them professionally.

Once I entered the eye ward for inspection. As usual, some one in the ward would call "attention!" and those patients who were physically able were to stand near their beds until I ordered them at ease or left the room. Of course, the blind were excused. I made it a practice to talk to many patients on these rounds. I thought, I detected a sign of recognition in the eyes of one of the blind soldiers, a young fellow with an Apollo-like face. Approaching him, I asked him whether he could see me.

"No, Sir, I cannot. But I know you are our colonel. I can tell that by your walk."

"How are you getting on, son?"

"Oh, as well as one could wish. Thanks to your interest and Captain Lesser's care; this is home to me now. Besides, what would I do at home?"

I pressed my hand on the lad's shoulder, turned and left the room abruptly. In the hall, I waved my escort aside. My rounds for that morning were over. Soon after the incident, the blind were sent to the states. There they could be trained for some useful work.

Odd Reasons for Evacuation

Our principal work was the evacuation of the sick and wounded to the United States. During our stay in Bordeaux, we had, of course, a number of trains bringing in wounded patients who were evacuated from hospitals about to be closed.

One day, a convoy was brought in. I saw a number of soldiers who looked well fed, normal, the very picture of health. I remarked to the admitting officer that they must think at the front that ours was an embarkation station. I talked to an intelligent looking man.

"What is your trouble?"

"I have none I know of."

"Who sent you here?"

"Base Hospital No. * * *, Sir."

"Were you wounded at the front?"

"No, sir."

"How do you happen to have been sent to the hospital?"

"The regimental surgeon evacuated me."

"Let me see your card."

The man handed it to me. I looked at the diagnosis. It read: Unsoldierly. Was I dreaming? What was I in—a modern army, or some make-believe army of playing children? Later, the officers told me that in that convoy at least fifty cards contained such "diagnoses" as "illiterate," "temperamentally unfit," "not clean."

It was evident that some line officers did not like these men and got the regimental surgeons to evacuate them. Why the base hospital did not send them back and, what is worse, why it sent them on to us with such audacious reasons, was simply beyond me.

I reported the incident to General Noble. He became a bit excited.

"Send me a detailed report!"

A copy went to the Chief Surgeon. It led to an investigation and to sharp reprimands. We evacuated all these men, but certainly not to The States.

The Chief Surgeon's office, busy as it was, certainly did all it could for us. I have remarked how quickly action came to stop discontent. In the matter of promotions, too, everything possible was done.

Inspection

Most of my recommendations were acted on favorably. Annoyed by letters from politicians and members of soldiers' families who desired, now that the war was over, their return for business reasons, I stood out for a categoric denial, since the patriotism boasted of in the letters was not apparent. In every instance was my decision upheld, even in the face of recommendations by men with political influence. And, whenever I asked that an officer or enlisted man be sent home because he was really needed, my letter was seldom returned with unfavorable action. Occasionally, a note would come from headquarters acknowledging appreciation of our efforts. Just before we evacuated the last thousand patients and closed the hospital, General McCaw and Colonels Fife and Reynolds came to inspect us.

Colonel Charles R. Reynolds had succeeded General Noble, some weeks ago, as base surgoen.

The period of demobilization of the A. E. F. was then well established.

Colonel Reynolds had been at the front as chief surgeon of an army and his task was to superintend the abandonment of all medical institutions throughout the base.

I knew Colonel Reynolds by reputation only. During his administration, which has been highly successful, we were treated with courtesy and a palpable willingness to help. To the very last day, when we closed the doors of the hospital forever, we could rely on his help and advice whenever complications of an unprecedented character left us in doubt what to do. He, like his predecessor, rendered decisions which were based on common sense; for, there was not time enough left to follow routine procedures.

As their automobile entered our park, a detachment of infantry serving as guards at the hospital turned out in honor of the distinguished guests and presented arms. General McCaw inspected the guard and ordered it dismissed. He and Colonels Fife and Reynolds entered the main building. The trumpeters sounded a flourish in salute. Officers, nurses, enlisted men and patients—a total of about two thousand individuals—were drawn up in a long line and inspected. Then the principal groups of buildings were visited.

"Enormous, an enormous place—too bad you could not secure a bird's-eye photograph," the General commented.

It was the proudest moment of my life.

Several weeks before, General Pershing and staff had inspected us. We then had the same formation. He, too, said some kind words to me after the inspection, but now my own chiefs were here, and they were specialists and could see beyond military form. To Colonel Fife, doubtless as much as to any one, I owe my assignment to Bordeaux. He has always supported me, convinced that I would not fail. I hope I have succeeded.

We have cured and discharged to duty nearly two thousand patients. More than seven thousand have been returned to the United States. We have saved many from death. Many have been prevented from becoming cripples. We have inspired love of country in the breasts of many officers, nurses, and men who will be ready to respond to a call—and better qualified for service.

Memorial Day

On Memorial Day, the officers, nurses, a detachment of engineers, and the hospital detachment, headed by a splendid marine band, marched in perfect military formation to the cemetery. There we saluted our dead. When we returned, I called the detachment commanders to the front, thanked them and di-

rected them to take their men through the nearest gates to their barracks. Before me defiled the officers, the nurses, and my own men, a formidable organization for a medical officer to command.

French officers—we had in the hospital several hundred French wounded, for the past two weeks—came to me and said:

"Votre discipline, mon colonel, c'est quelque chose que nous n'avons pas dans nos hôpitaux."

And I, the immigrant, could not help but feel proud of the great honor that had been bestowed on me by my adopted, my real fatherland!

On Kindness

"YOU gave on the way a pleasant smile
And thought no more about it;
It cheered a life that was sad the while
That might have been wrecked without it.
And so for the smile and its fruitage fair
You'll reap a palm sometime—somewhere.

"YOU spoke one day a cheering word
And passed to other duties;
It warmed a heart, new promise stirred,
And painted a life with beauties.
And so for the word with the silent prayer
You'll reap a crown sometime—somewhere.

"YOU lent a hand to a fallen one,
A lift in kindness given;
It saved a soul when help was none
And won a heart for heaven,
And so for the help you proffered there
You'll reap a joy sometime—somewhere."

—Bickers.

Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

TO our Readers: A few days ago, a middle-aged man called on me and explained that he lived in a small town near Chicago and that the JOURNAL and the Seminar mean spiritual food to him many an evening after the day's work is done. He told me that he has actively participated in the solution of the diverse problems so far presented but felt unable to submit his ideas in writing, as he had absolutely no ability to write. This physician is a graduate from a regular medical college in Chicago, in good standing at the time of his graduation, and therefore he must have had some general education before he undertook the study of medicine. Accordingly, I could not readily believe that he could not write down a problem. Indeed, during our conversation, he discussed the case intelligently. I asked him to pen down the statements on paper, just as he talked with me. The result was that, with a little pruning and editing, I am able to present his views under the pseudonym of "Country, M. D."

The point I desire to make is, that I do not care whether you have writing ability or not, whether you can clothe your thoughts in beautiful phraseology or not. All I ask you is this: Have you sufficient training to understand the problems as presented? Can you solve them? If so, pen down your thoughts as best you can and send the paper to me. I will edit everything except the ideas and, thus, your contributions will prove of value to all readers of the Seminar.

Solution of Surgical Problem No. 5

It is gratifying that the number of solutions received has increased as compared with preceding problems. Of all those received, I shall select three, as constituting discussions most worthy of publication.

The Problem: A young man received a severe blow with a brass controller on the left side of the head, at about 10:30 a. m. He is dressed at a public hospital and sent on. At 2:30 p. m., the patient is seen by you. In addition to the history of trauma, you learn that the patient noticed a weakness in the left leg and, soon after, became unconscious. He is in deep coma; pulse 40; pupils unequal and do not react to candle light. Breathing deep, slow and stertorous. No fracture can be palpated. There is a horse-shoe shaped, contused superficial wound of the scalp over the region of the left fissure of Rolando (approximately). No blood or discharge is visible on examination of nose and ears.

The "requirement" called for a rough estimate of the situation. Discuss, with the limited data available, the probable diagnosis with special reference to the site of the fracture of the skull, if any. Discuss the prognosis. Indicate the proper therapy.

Comment: This case, more fully published in the November issue of the CLINICAL MEDICINE, is, of course, one taken from actual experience. That the data are not sufficient for a really scientific estimate of the situation, is acknowledged. But, the facts are presented as one would be apt to find them in a house, away from facilities for detailed examination.

Nevertheless, I expected at least two criticisms for negligence. When I examined the patient and noted irregularity of the pupils, I should have been more specific as to which eye was more dilated. Again, I mentioned nothing of patellar and other reflexes; yet, these are of some diagnostic importance and (what is not to be overlooked) are signs which can be looked for without appliances. It would have pleased me to be criticized; for, of course, in this as in similar cases, I did not and would not fail to obtain all information possible at my very first examination. While a diagnosis can be made without study of the patellar and other reflexes, these data should have been furnished. I omitted them purposely.

Solution by Colonel George Acheson of Kingston, N. B.

Diagnosis: Evidently, here we have a case of compression, due probably to hemorrhage in the region of the upper part of the fissure of Rolando on the right side, compressing the upper part of the right ascending frontal and possibly also ascending parietal convolutions, as evidenced by paralysis of the left leg.

While there is no depression of the bone or palpable fracture at the site of the blow on the left side, it is reasonable to infer that the blow on the left side caused a fissured fracture, which

extended over the vertex to the right side, and which, with *contrecoup* to the brain, caused laceration of some meningeal vessels at the site above referred to.

If the skull is fractured on the right side, I would expect to find, according to Anan's rule, a fissure radiating from the point struck.

Prognosis: The deepening coma, slowing of respiration and pulse, and pupillary signs point to rather extensive and continued hemorrhage, with resulting increase of the area of compression, which, unless relieved, must terminate fatally.

Even if the bleeding should stop, there is the danger of secondary inflammation of the meninges or brain substance, with sepsis (possibly), giving a very grave prognosis.

Therapy: Under the circumstances, an attempt should be made to relieve the intracranial pressure by trephining over the upper third of the fissure by Rolando on the right side. It might be advisable also to trephine the left side at the site of the blow, where a depressed fracture of the inner table may be found.

In addition, apply the ice cap, clear out the bowel by enema and, perhaps, bleed the patient into his own veins, by the application of venous tourniquets to the proximal extremities of the limbs.

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Solution by Dr. Isaac E. Crack, Hamilton, Ontario.

Seeing a patient, following a head injury, in a comatose condition, with deep, slow stertorous breathing, slow pulse, and unequal pupils, one thinks immediately of compression of the brain, either from depressed fracture or intracranial hemorrhage. The latter I believe to be the case here. The lucid interval following the blow points very strongly to hemorrhage from a rupture of the middle meningeal artery.

The condition of the pupils would indicate that the hemorrhage is reaching down towards the base of the brain. I do not think that there is a fracture. I believe the hemorrhage to be on the side of the external injury, namely the left side. The somewhat vague history of weakness of the left leg, prior to the coma, is rather confusing. This could be explained by an inquiry to the right side of the brain from *contrecoup*, symptoms of which injury are sometimes late in developing.

Prognosis in the case is extremely grave. The eye symptoms point to involvement of the base of the brain. The only hope for this patient is from an operation with a view of removing the clot, and it should be done by a man with experience in brain surgery.

Solution by "Country, M. D."—Ill.

I estimate the situation to be very serious, because there is pressure on the brain from a clot, which must be very large. This clot must be on the right side, because the left limb showed beginning paralysis. The inequality of the pupils means that the lesion is limited to one side. I cannot tell whether there is a fracture or not; as, for this, an x-ray picture is needed.

In a large city, this man should be sent to the nearest hospital and be placed under the care of a good surgeon. In a place like mine, without a hospital, I would send for help, meantime shave the patient, prepare hot water and so on, and insist that a colleague with surgical experience open the skull on the right side sufficiently wide to enable ligature of the median meningeal artery and removal of the accumulated blood. I would respectfully suggest to close dura, bone and scalp wounds without drainage and await what follows, confident that the patient had been given a fighting chance. If I had sent him to a hospital fifteen miles away or sent for a surgeon from Chicago, the man would have probably died without anything being done.

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Editorial Comment: Now, readers, are you not a bit proud to see such able men as Colonel Acheson and Dr. Crack come to our rescue and *make* this department? And aren't you a bit hurt that it is always two representatives of a foreign country, men whom I only know through correspondence, who seem to be actively interested? True, I have seventeen or eighteen more letters in my drawer; and, here is a specimen of one:

"I should say, there is no doubt about the case being a fracture on the left side near the base. A trephining may do good, though, if the fracture radiates to the base, the case is probably best let alone and treated with an ice-cap and elevation of the head."

Now I should have probably used this letter as a demonstration how not to approach surgical problems. This physician, who lives in a city of medium size, would (let us hope) not make such a diagnosis; because, if he had not made a "snap" one, but given the matter a few minutes' thought, he would never have sent me the above discussion over his signature. Such solutions are absolutely worthless because irrelevant.

In further commenting on the case within the frame of the data as given, I can only state what would be in my mind were I to visualize the case as of the moment seen. Of course, in actual practice, we would inquire as to head-

aches, vomiting, etc., symptoms which any friend or member of the family present could easily recognize and inform us about. But, in this particular care, we have no such data.

What we do have is this: A healthy young man follows his occupation, gets hit on the left side of his head, is dressed and goes about his business. About three hours later, he complains of motor paresis or paralysis of the left leg and, soon after, is in deep coma. Half an hour later, we note a slow pulse, stertorous breathing, deep coma, absence of pupillary reaction to light and irregularity of the pupils.

The trauma is confirmed by the external wound. There is no physical evidence, at this time, of a fracture. Indeed, I am not especially interested whether there is or is not a fracture, for, there is no doubt of the presence of compression (not pressure) of the brain, and there is also no doubt that this is produced by hemorrhage. The severity of the symptoms point to hemorrhage of the middle meningeal artery and the fact that the paresis showed on the left leg first makes it conclusive that the right vessel is the one lacerated and torn, by *countrecoup* effect. (This was fully confirmed by the subsequent operation.) As regards the eyes, dilatation or contraction being possible in cerebral compression, I attached no special significance to the phenomenon, except to assume that the pupil may not yet have dilated as widely at the side of the lesion as on the other side. My judgment in this proved correct.

Later History: The patient was taken to the hospital. I opened the skull over the anterior branch of the middle meningeal artery (right), tied the torn vessel, washed away the clot and some free blood with normal saline solution, and closed the entire without drainage. The operation lasted 30 minutes and was done without anesthesia.

The pulse increased in frequency, the breathing was hurried for about an hour, then became more regular. Consciousness returned about two hours later. Uneventful recovery.

Surgical Problem No. 7

You are called to see a young woman, about 24 years of age, a domestic, who has been ill for about two days with, what her employer and neighboring physician, who was called in, described as rheumatism of the left elbow.

It is late in the evening and the patient suffers so intensely, in spite of an opiate, that you are called in "to do something".

The left elbow is held by the patient in a flexed position over a pillow. The joint is red, hot and swollen. The least attempt on your part to examine the elbow causes the patient to cry out in great agony. Pulse, 100. Temperature 102° F. The patient looks very ill; exhausted.

Required: Exact diagnosis. (If it cannot be made by the symptoms and findings as given, what causative factor would you look for?) Suggest a non-operative therapy which holds out hope of speedy relief and recovery.

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Note: On account of lack of space, the "Care of Surgical Patients" and other interesting matter, will be published in the February issue.

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New Year's Greetings to all my readers!

" . . . We each of us have an inborn conviction that the whole world, with everybody and everything in it, was created as a sort of necessary appendage to ourselves. . . . "

—Jerome, *Idle Thoughts* (On Vanity)

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE, M.D.

The Great American Stomach

IT is undeniable that the stomach is the most long-suffering organ of the body. The manner in which people abuse their most important organ and best friend is cleverly hit off in the skit entitled: "Diary of a Flapper's Stomach," in *The American Journal of Public Health,* Chicago. It is merely the experience of a single day and is not as much exaggerated as might be supposed. Here is the stomach's complaint:

"10:00 a. m.—Oh, dear! Another warm day. Wonder if I'll be abused as I was yesterday. If I am, I'm going to strike. Just disposed of a half-chewed breakfast. We ran for the train, which meant, I was so jiggled about and so tired that it took me twice as long to do my work. Hope she gives me an hour or two of complete rest before anything more comes my way.

"10:30 a. m.—Two glasses of ice-water have just arrived. It will take all the energy I can pump up in the next hour just to warm me up to normal again.

"10:50 a. m.—Half-chewed breakfast did not satisfy her and she has bought some peanuts and started again.

"12:00 m.—Peanuts have been drifting along steadily ever since. Think she has finished them, too.

"12:30 p. m.—Decided she wasn't very hungry and, instead of a good solid dinner, sent me down a cold egg-nog heavy with chocolate. Could have managed it all right if it hadn't been so unnaturally cold, but that made it terribly difficult to deal with.

"1:10 p. m.—More ice-water.

"1:40 p. m—Was mistaken about the peanuts; she found another handful in the bottom of her vanity bag, and now I am getting them again.

"2:05 p. m.—More ice-water.

"2:10 p. m.—She has been lifting some heavy books and, as usual, used my muscles instead of her arm muscles. You see, she's never had any proper physical education—soft, flabby, slouchy sort. Tired me almost as much as a six-course dinner.

"3:20 p. m.—Furtive fellow has brought us a box of caramels. Just heard her say: 'Oh, dear! I don't feel a bit well. The milk in that egg-nog must have been sour.'

"6:30 p. m.—We played a set of tennis before dinner and here I am all tired out and a lot of work to do.

"6:50 p. m.—We were invited by a sissy sport with a belt on his coat to have a soda before going home. Had a lemon phosphate and then had to run for a car.

"7:00 p. m.—Fried 'taters, cucumbers, veal cutlets, catsup, cookies and canned blueberries. What do you know about that?

"7:45 p. m.—We are strolling down to the corner with a knock-kneed guy in a sport shirt and white pants for a pineapple-walnut-college-ice.

"8:20 p. m.—Got home and found somebody had made some ice-tea. She drank two glasses. I tried hard to keep the tea and the college ice separated, but they mixed in spite of me. I go on strike.

"8:30 p. m.—I have sent back the college ice and the iced tea.

"8:40 p. m.—Returned the blueberries.

"8:45 p. m.—And the peanuts.

"9:00 p. m.—The devil to pay—can't get the doctor.

"9:17 p. m.—Doctor found at the movies. Mother thinks it's a weak stomach she inherited from her father. Knock-knee suggests it's the beastly weather—the big boob!

"9:45 p. m.—Doctor says it is from a bilious temperament. Good-night!"

If such abuse of our most important organ were limited to the flapper and her kin, the matter would be comparatively unimportant. But it does not require very close observation to discover that a very large proportion of people apply as little consideration to their stomachs as did the poor girl of the "Diary."

The large number of men who break down in or before middle life should lead us to reflect upon the cause, especially as there is a ten-

dency to overlook the true cause.

One is reminded of the old farmer who was extremely fond of roast fresh pork. It was in the fall of the year when the cornfed shoats are at their best—plump, sweet and juicy. He killed one in the morning, and his wife prepared a generous roast from the side of it for dinner—tender, and alternately streaked with fat and lean. He ate very heartily—so heartily, in fact, that his wife protested, fearing that he might be ill. But he ate his fill, finishing off with a large section of mince pie.

At supper time, the cold roast pork was not on the table—his wife had seen to that; but he grumbled and fussed until she yielded and brought it on. He ate freely. When bedtime came, he toasted some cheese over the coals and ate it, and then, for a sort of nightcap, roasted and ate a couple of apples.

What followed, may be imagined.

In the middle of the night, he was taken desperately ill, writhing in the most excruciating pain. The doctor was called and administered an emetic which brought a degree of relief. The next morning, he felt some better, although still sick and weak. A neighbor called to see him and inquired what was the matter. He replied, "Why, I ate some roasted apples before going to bed last night and they nearly killed me. I'll never eat another as long as I live!"

Men, who break down at an age when they ought to be at their best, are very prone to attribute the trouble to a wrong cause. Overwork is the scapegoat which is most often made to bear the blame for the frequent kidney disease, heart disease, high blood pressure, and other disorders of fifty or more years of life. As a matter of fact, most of those people would not take harm from hard work, if they were well nourished and not compelled to overwork their organs of elimination and excretion in order to get rid of the products of too much and too rich food. Many a man who could maintain good health on three moderate meals a day, of plain, wholesome food, persists in indulging in four or more, the extra ones usually late at night and anything but hygienic in character.

Nowhere in the world, is food so plentiful and varied as in America. There may be a few nations that have brought the art of dining to greater perfection; but, nowhere is there such abundance for the ordinary citizen. Putting together the two conditions of abundance of food and ignorance of the principles of scientific nutrition, and it is not surprising if, as a people, we pay the penalty for our eating-habits in damaged health and shortened lives.

Men who work with their muscles, such as farmers, mechanics, etc., can digest and dispose of, for the time being, a much larger amount of food than those of sedentary habits. But, we find kidney disease, high blood pressure, etc., about as prevalent in the country as in the city. So it would seem that the ability to digest food and pass it on out of the stomach is not the only thing of importance, and that the excess taken over what the system requires, may be injurious, no matter what the occupation of the individual.

I have in mind a man whose case is typical and will serve as an illustration. I have known him since he was a boy. He is a farmer of 54, active and apparently in perfect health, so far as appearances go. He has always been a great eater; that is, in quantity of food. The quality of his food has been wholesome. He has rather prided himself on the fact that he could eat large amounts of food and feel no bad effects. He looked with a mild degree of good-natured contempt upon those of his friends who could not follow his example, but who believed that they could best preserve their health by moderate indulgence in wholesome food.

However, the pitcher that goes often to the well will be broken at last. Within the last few months, he has begun to suffer from dizziness, high blood pressure, and other signs of arteriosclerosis. The excessive amounts of food taken during all these years were quietly producing changes in the body tissues which were not apparent at the time, but which at last are making themselves felt.

Those of us who have suffered more or less all our lives from stomachs that do their work but imperfectly, putting us into the great army of dyspeptics, can scarcely be blamed if we look with envy upon the wonderful digestive powers of some of the lower animals. For example, the great serpents of the South African veldt swallow a deer or antelope whole, and their digestive juices are powerful enough to dissolve the whole body, bones, horns and all. So hunters and naturalists tell us at least.

How Your Mail Is Delayed

The Postmaster has requested me to call the attention of readers to a matter that not only adds greatly to the work of postal employees during the holiday season, when they are always overworked, but has also the effect of delaying *all* mail; so that everybody has an interest in the matter.

He says: "During the holiday season, large quantities of very small envelopes and cards are put into the mails, with the result that all postal work is very much retarded and mail disfigured and torn. It is hoped that the public will do everything possible to assist the Post Office force in this their most trying season. The minimum size of cards and envelopes should not be below 2¾ x 4 inches, for the following reasons:

1.—Addresses will be obliterated by the cancelling machines.

2.—They are too small to be handled on facing table, necessitating three extra handlings, with consequent delay not only to this but other mail.

3.—There is delay, because they must be postmarked by hand stamp instead of through machines.

4.—There is delay through difficulty in sorting.

5.—They are liable to loss or damage, as small sizes do not fit in letter packages and cannot be tied securely.

If small cards or envelopes are used, they should be enclosed in an envelope of ordinary size.

Cooperation by the public in this matter will be a boon to the Post Office at a trying time, but will also expedite the handling of all mail.

Questions and Answers

Here is one that keeps cropping up every little while.

"J. P. S." writes: "One of the big city dailies says, in reply to an enquirer, that the expression 'None were' is incorrect, and that it should be 'None was.' If that is so, please give the reason. I always thought it was the other way."

Ans.—The editor of the big city daily must have been napping. The truth is that sometimes "none was" is correct and sometimes "none were." The indefinite pronoun "none" is used in both the singular and the plural. A little study of the following questions and answers will make the matter clear:

"Did you bring my letters from the post office?"

"No, there were none for you." Here "none" means "no letters," and is therefore plural and takes the plural verb "were."

But this question is different:

"Did you order coal?"

"No, there was none in the market."

In this sentence, "none" means "no coal," and is singular, taking the singular verb "was." It is simply the application of the old rule of grammar: "A pronoun agrees with the noun for which it stands, in gender, number, and person."

The frequent misuse of "none" is due to a mistaken idea that it means "no one." There are many places where "none" does not and cannot mean "no one."

When we search the writings of our classical authors of English literature, we find that they use "none" in the plural nearly ten times as often as they do in the singular.

Here are a few instances picked out at random for these articles years ago:

None of these things move me.—St. Paul.

None are for me.—Shakespeare.

None deny there is a God.—Bacon.

None are seen to do it.—Milton.

None are so desolate.—Byron.

None think the great unhappy but the great.—Young.

'Tis with our judgment as our watches, none go just alike, yet each believes his own.—Pope.

Few die and none resign.—Thomas Jefferson.

None linger now upon the plain save those who will not fight again.—Scott.

Many persons have a wrong idea as to what a rule of grammar really is. They imagine that it is a law laid down by some grammarian, much as congress enacts a law. But, the case is quite different. Rules of grammar are not *made;* they are *discovered.* They exist in the language, and are simply *those orderly methods of expression adopted by the best writers to give clearness, force, and beauty to their writings.*

The would-be grammarian, who lays down a law for the rest of the world to follow, is certainly well supplied with assurance. We have plenty of them telling us what we should say and what we should not. They tell us, we must not put an adverb between the two parts of a compound verb, as "Thou shalt *surely* die." If we must say, "Thou surely shalt die," then our greatest writers have all been wrong.

They say we must not end a sentence with a preposition or similar short word—that we must not split an infinitive—and a number of other things. The best writers and speakers do not hamper themselves with petty rules. They use the forms of expression that seem to them most forcible or beautiful, and let the rules take care of themselves.

James Russell Lowell said of Garfield: "The soil out of which such men as he are made, is good to be born *on,* good to live *on,* good to die *for,* and good to be buried *in.*"

The manner in which he ends each clause

with a preposition adds a peculiar force and charm.

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"L. W. S." writes: "In the September issue of CLINICAL MEDICINE, you make use of the expression 'tastes good.' Is that good English? Is not 'good' an adjective, while you use it as an adverb?"

Ans.—The expression "the food tastes good" is approved by most writers and speakers because it is practically the same as "The food is good," because "tastes" does not express an action but rather a state. When we say, "The food is good," we use "good" as a predicate adjective qualifying "food," and in saying "the food tastes good," the construction is the same. Moreover, what other word would be possible? We cannot say "The food tastes well"; for, that would jar one's grammatical nerve worse than the other. In like manner, we say, "The stove feels warm" just as we say, "The stove is warm." We do not say, "The stove feels warmly."

—

"S. G." asks: "Will you kindly give the pronunciation and meaning of 'Oom,' and 'Fascisti'?"

Ans.—"Oom" was originally pronounced to rhyme with "home," but usage has settled on the pronunciation that rhymes with "room." This has been adopted by the "Standard Dictionary." It is a Dutch word and means "uncle." It is much used by the Boers of South Africa. It is the same word as the German "Oheim," uncle.

"Fascisti" is pronounced "fash-is'-te, *a* as in father, *i* as in this, *e* as in we. The name, which is applied to the new political group in Italy, suggests strength in union, from the old Latin word "fasces," a bundle of rods tied together, which are, of course, stronger than if taken separately.

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A correspondent asks why I devote so much space in this department to books, literature and grammar. The reason is, because so many of my readers write to me about these subjects. Their letters far outnumber those on any other subject. I interpret this fact to mean that they are interested.

It is but one of many evidences that the public are taking a growing interest in the subject of correct English. It seems that, for some years past, the teaching of English in the public schools has left much to be desired, and many of our young people, when they get out into the business world, find themselves deficient in the ability to express their thoughts in appropriate form.

This department welcomes all readers to write me regarding any subject that interests them most. The department is a year old and the harvest of correspondence has been a rich one.

2920 Warren Ave.

On Vanity

"Come, oh! my brother bucks, let us be vain together. Let us join hands, and help each other to increase our vanity. Let us be vain, not of our trousers and hair, but of brave hearts and working hands, of truth, of purity, of nobility. Let us be too vain to stoop to aught that is mean or base, too vain to say an unkind word or do an unkind act. Let us be vain of being single-hearted, upright gentlemen in the midst of a world of knaves. Let us pride ourselves upon thinking right thoughts, achieving great deeds, living good lives."

—Jerome, *Idle Thoughts.*

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER, M. D.

"Mene Mene Tekel Upharsin"

YES, *indeed,* my brethren, we have been "weighed in the balance" by a jury of journalists and a well accredited Ph. D. and "found wanting." And, my sainted Aunt Maria! how *much* "short weight" we are, would bring tears to the eyes of the common Irish potato, believe you me!

Never, *never,* until this and other equally well-informed (and paid) crusaders began to crusade in certain of the "big" (circulation) monthlies, did I dream that I was, thou wast and he, she or it was (if engaged in the practice of medicine) a "fakir," a "charlatan," an ignorant pretender and, generally, a sort of quasi-scientific prostitute, living luxuriously upon the credulous cretins who make up the public at large—excluding, of course, the CRUSADERS themselves, their families, employers and immediate allies and servitors. It is a horrid thought, but, mebbe (who can tell?), there are even some C. C. P.'s (credulous cretin, NOT "compound cathartic" PILLS) in *that* sacred circle?

Bovine Syphilis—What Is It?

However, that may be, WE, miserable, muddle-headed medicos that we are, stand, today, pilloried against the sky-line as fools, frauds and fakirs of the first magnitude. Worse than that, even; for, have we not—according to one crusader—ignorantly or wilfully gone from house to house and given every one we could catch "bovine syphilis" under pretense of saving them from the smallpox? Then, too, haven't we injected vaccines to cure broken (*wooden* even, perhaps, alas! So perverted are we!) legs? *Haven't we?* Sure we have! So basely ignorant are we, too (there may be a few shining exceptions) that we really believe with that some-time-deceased jester, Jenner, that the milkmaids in England contracted the somewhat annoying but ephemeral eruption they *did* get, from contact with certain pustules which made their appearance upon the udders and teats of the dewey-nosed cows they milked. How fatuously foolish, how credulous, how astoundingly asinine we are and ever have been! Of course, as the erudite educators on crusade point out, the naughty milkmaids had wantonly toyed with things quite other than the teats of milch kine and, thereby, had contracted not the "little" but the *"great"* pox, which fell disease, during their more innocent milking hours, they then themselves conveyed to the 100-percent virtuous cows, thereby bringing a "murrain" on the poor cattle, while (strangely enough) promptly getting rid of "th' pox" themselves!

That "Malefactor," Jenner

Then, mooning along, comes that iniquitously inquisitive idiot, Jenner, and (using about the same line of alleged reasoning that Newton followed when he lay open-mouth under an old apple tree and let wind-falls hit him on the proboscis) drew the disastrous deduction that, if milk-maids who milked cows with what he called "cowpox" didn't get smallpox, then, if everyone were inoculated with cowpox no one would have smallpox! Isn't it puerile and pooffy-wooffy when you come to consider it? *Isn't it?* And, so, being a mountebank and general assabas, he scraped the pus from the gentle bovines and scratched it into gentle—and entirely common—people alike. And they *did* get cowpox and *didn't* get smallpox!

Thus, at one fell swoop, he afflicted the entire civilized human race with "BOVINE SYPHILIS," and we, past masters in assabasity (I simply HAVE to coin a new word to describe our microscopic mentality—the dictionary is sterile) take infinite pains to see that every innocent che-i-ld shall be infected at the very earliest opportunity. For such felonious assault upon his poor little person, we tax his contaminated parents anywhere from fifty cents to two dollars. Moreover, not satisfied with this initial robbery with violence, we insinuate that the procedure ought to be repeated every seven years—and generally see to it that it is. Oh, but we *are* debased; so debased that in our

assabasity and GREED, we even infect ourselves and our offspring—free, gratis, for nothing! It is horrible, *horrible,* HORRIBLE! And then some! *"Bovine* SYPHILIS," my brethren—*you've* given it to thousands of the Creator's innocent and inoffensive creatures and—the irony of it—you are so curdled in the cerebral and cerebellar regions that you have *"syphilitica bovis"* yourself. Isn't that "the bull"—I mean, the limit?

It surely ought to be, but, alack a day, there is, as the old lady said, "more to come." Fearful stuff, too—so fearful that I shudder to mention it. Those magazine crusaders are *so* rough, so unnecessarily cruel in exposing our nakedness. Anyhow, we've got to stand it. So, prepare for the worst.

Drug-Mongers and Such

You are (I am) a credulous "drug-monger" and a "bacterin broker." You are (I am) merely a 1923 model of the "medicine men, itinerant mountebanks and charlatans of all sorts who fooled uneducated yokels with stews of insects or rodents and decoctions of the excreta of animals." *That* is what you are, Mr. M. D.! A certain Ph. D. so supremely intellectual and "advanced" that he considers all moderns LOOK WITH AMUSED TOLERANCE UPON PEOPLE WHO ACCEPT THE LEGENDS OF THE IMMACULATE CONCEPTION AND THE RAISING OF THE DEAD BY CHRIST OR HIS DISCIPLES" says so right out boldly in print. And, he ought to know. He has studied bacteria! That you have succeeded so long in robbing those who looked with confidence to you for succor in time of danger, is entirely due to the fact that "the gullibility of the great body of the plain people of today—to say nothing of the lower strata—is too well known to justify lengthy consideration." "It is," says our inspired Ph. D., "credulity that is the major cause of the child-like awe and ready acceptance of the medical mythology of today." Such credulity "makes it easy for doctors to propagate their myths." Moreover, such credulity is "common as well to the medical profession itself." "This follows quite naturally from the fact that the populace at large forms the raw material (very raw; but, where do the Ph.D.'s come from?—Heaven?) from which physicians are made. It is well known that entrance to a medical college is not based upon a requirement of independence of intellect but upon credits earned in a certain number of years of pre-medical education. Since these can be won by anyone *slightly above the mental capacity of an imbecile,* it is clear that the medical student must be fairly representative of the average citizen" (who is a first-class fool anyhow) "and, consequently, prone to the same aberrations of the intelligence."

All this is, of course, very clear and, to my mind, conclusive evidence that nearly all men *are* fools and that some of the biggest of these have the gift of tongues. For our comfort, let us remember that the industrious and intelligent ant is silent, whereas the coyote and the parrot, who achieve nothing, make an abundance of sound. But it is neither musical nor informative. However, it is one thing to be a natural fool milling around with the other fools of the herd and quite another to be more knave than fool and spend one's energies in fraudulently and feloniously despoiling and materially injuring the more foolish fools in the guise of a Good Samaritan.

Are We Fools? Or Knaves?

And it is precisely this kind of thing the Physician is said to be and to do by the Crusader-in-Chief. In other words, you and I ought to be taken out by the other congenital, non-knavish idiots in our various communities and hung up to air on the nearest telegraph pole. And if we were to get our *true* deserts, we would be parboiled in nice boiling pitch first.

It is, of course, sad enough to see a dignified old bluff of a physician *pickled,* but my very soul shrinks from the contemplation of some eminent internist being soused in hot oil—even though it be *ol. ricini.*

Moreover, personally I have a distinct disinclination to having my cervical vertebrae disarranged—even by a chiropractor of the feminine gender. Therefore, I trust we may be permitted to at least live on—under surveillance, of course, and engaged in some useful (even though foolish) occupation—until the Grim Rider, whom we never have succeeded in definitely defeating, comes to claim us for his own. To continue to practice our alleged "profession" in the face of the mass of damnatory evidence now being advanced against us would, of course, be impossible. WE must, unless we can purge ourselves of the ten thousand and one charges which are being hurled at our devoted (and "stupid") heads, prove our honesty and do something useful—uplifting. I, for example, have almost decided to write a series of articles attacking the Baptist Ministry. I haven't the slightest doubt that I could say things about these gentlemen and their personal and professional habits which would make most spicy "feature stuff" for which the publishers of "Peppy and Popular" magazines would be willing to pay fancy prices. Some

other poor and penitent pill-pusher might turn out a series of articles exposing the absurdity of Law and the laughable lubricity of our Legal Luminaries.

Still another particularly bright (and knavish) medical fool might make a real hit with a few such specials as "The Joker in Journalism" and "The Mud-Made Magazine."

Oh, this world is so full of such squibbulous rings
That I think that we OUGHT to get busy, Old Things!

Yes, there will always be "balm in Gilead," *but, right now,* there ought to be Hell in this U. S. A.!

The Paid Reformer and the Scandal-Mongering Publisher

When any semieducated egomaniac with an inherited gift for sarcasm, invective and diatribe, can so far forget himself as to endeavor to befoul the nest he at least perched on the edge of, he merits, not 'silent contempt' but very active opposition. When publishers, for distinctly sordid ends, print under scare heads, speciously-worded but entirely misleading attacks upon the Great Profession which has stood and still stands alone between the "credulous common people" and profound personal physical disaster, it is time for that profession and those they so faithfully and (usually) successfully serve, to register definite disapproval and materially reduce the circulation of such indecent periodicals. If the great mass of people be, as these writers assert, "credulous and gullible," the more reason that they be not offered a literary diet which to such must prove extremely indigestible and serve moreover to shake their confidence in those who alone can extend them real assistance when health fails or Death untimely threatens.

The Doctor is not now, neither has he ever been, either "fool," "charlatan" or "knave," and the people he serves are perfectly well aware of this fact. Some few fools, charlatans and knaves do exist in the medical profession as in every other walk of life, but it is reasonably safe to say that most of them are there because other fools and knaves demand the kind of service such men alone can offer. Honest and only "ordinarily stupid" people have no difficulty whatever in securing the attention of equally honest and reasonably well qualified practicians.

Practically not one of the sensational and widely advertised articles recently appearing serve any useful purpose whatsoever, but they are indecent, unwarranted and, to a very great extent, untruthful attacks upon a profession which merits public confidence for the simple reason that it has always striven and now even more heroically strives, to make the world a better place to live in and the journey of human beings through it a less hazardous and painful pilgrimage than it was of yore.

It is all very well (for the "knocker") to "knock" the doctor at so much per "knock," or (for the publisher) to publish broadcast such defamatory articles, but it is NOT well for the people who read such literary buncombe, neither is it well for the doctor just striking his gait to find himself the object of insult and ridicule. The people MUST have medical care when sick, and it is essential that they believe in those who hold their lives in their hands. And the doctor, if he is to extend really efficient assistance, must have trust in himself and his resources. If in some emergency the patient declines to accept a therapeutic procedure because he "read in some magazine" that it was dangerous or a "fake," can the doctor be held in any way responsible if the illness has an unsatisfactory termination or he himself experiences that "Oh, what's the use" feeling, which makes for inferior work always and everywhere?

Some Alleged Reforms Injure the Public

The articles then are distinctly inimical to the welfare of the lay people they are supposed to serve—or "educate." They are, moreover, offensive in tone, offer in every line an unwarranted affront to the conscientious self-sacrificing physician, and their publication should be resented in a definite and practical manner. The procedure indicated is, it appears to me, obvious even to the "limited intelligence" of the Physician. He might even develop enough acumen to induce his friends and patients to express their disapproval also.

We humbly admit that we have much to learn, but we have gathered that which was worth while from the experience of our predecessors, and we work hard in the present to make things more perfect tomorrow. We criticize ourselves unmercifully and welcome constructive criticism from any intelligent source. But we do not like to have monkeys throw peanuts into our delicately balanced machine, neither do we appreciate it when assabasses bray "KNAVE! CHARLATAN! FAKIR!" when we are doing all that in us lies to be honest with ourselves and our fellow-men—who, at the end of it all, HAVE, some time, to TRUST us or suffer needlessly and die an untimely death.

The highly intelligent publishers of the high-

ly popular periodicals, now having a wonderful time lambasting the Doctor, might lay off just a moment and ask themselves where *they* would be Now if some reasonably honest and intelligent practician hadn't been available at the right time and, further, where they or their loved ones will be at any hour that accident or illness arrive if some member of the profession—neither Knave, Charlatan or Fakir, can not be readily reached to fight their battle for them and ward off calamity?

As far as the writers of the said articles are concerned, they need, more than anything else, the attention of alienists.

I headed this article, *"Mene Mene Tekel Upharsin,"* and we *have* been weighed and decidedly "found wanting," BUT the balance was held in a palsied hand and the weights were crooked.

Nevertheless, individually and as a body, we shall be "wanting" indeed if we allow such unwarranted and malicious propaganda to pass without expressing our resentment in no uncertain manner.

To be kicked upon the tuberosity of the ischium is to suffer indignity enough, but to further permit someone to twist your nose and cuff your ears, the while calling you opprobrious and entirely inappropriate names, is carrying things a little bit too far for even an M. D. to stand. And, Heaven knows, he's stood for most everything.

Perhaps, if we bucked up and developed a VOICE which could be heard when we raised it, together with a corporate kick ("to be used in emergencies only"), we might have—

"A HAPPY NEW YEAR!"

The Knocker

THE knocker is a curious cuss;
He never starts to whine
Or fling his envious shafts at us
Until our work is fine.
It's only men with skill to do
Real work he tries to block;
And, so, congratulations to
The man the knockers knock.

—Wm. Angus.

Medical World, Nov., 1920, p. 348.

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

EDITORIAL COMMENT: For some years, the need of a small and practical guide for the every-day use of active-principle remedies has become more insistent; since, unfortunately, those that had been published twenty and more years ago are out of print and since it has been impossible, so far, to find the leisure to issue new editions or new books. Years ago, the little alkaloidal guide by Drs. Silva and Thackeray made many friends. It gives us pleasure to reissue this guide, with suitable amendations and additions, in serial form, as prepared by the junior author of the original publication. Eventually, the little book will be republished in permanent form. Instalments will appear in CLINICAL MEDICINE *from month to month, until the manuscript has been reproduced in full.*—ED.

PREFACE

The works on Therapeutics soon pass out of date, and this, irrespective of the most positive information that they may contain.

A widely used medication and an efficient medicinal agent do not exclude the conception of means of a higher value.

New products of the chemical laboratory are handed to the pharmacologist who, in turn, reveals their usefulness to the clinician, and the latter, after experimental researches, assigns to them a place in our armamentarium.

Substances of old date undergo new associations which prove advantageous; new processes of administration daily see the light, and new applications of old remedies are of not infrequent occurrence.

Periodical literature is an organ for the diffusion of knowledge, but its existence is ephemeral, and with it are side-tracked the stores of information. Besides, the busy practitioner cannot spare the time to hunt up information disseminated throughout a multitude of journals. Harassed by the continuous demands inherent to his profession, he cannot devote his short leisure moments to the perusal of prolix works; he requires compendious books which, by a systematic arrangement of their contents, may at a glance exhibit the most salient points that bear upon the subject. With this in view, the authors have compiled from authentic works such matter as is deemed necessary and to which they have added the product of their own experience; the whole in a condensed form which, they hope, may be accepted by the profession in the same spirit that prompted it.

W. T. THACKERAY, M. D.
C. C. P. SILVA, M. D.

PREFACE TO THE REVISED EDITION

The original of this work dates back some years and, in the interim, many new positive remedies or modifications of old ones have been introduced. To put these before the medical profession in a condensed form as to their prominent physiological effects, their therapeutic uses, as established by clinical experience, and their dosage, is the *raison d'être* of this work.

In keeping with the principle of positive medication, compounds have been avoided. While these are used by many, they may not always meet the conditions for which they are intended and the method adopted allows the prescribing physician to make any combination that the conditions or his experience may dictate.

As many of the concentrations under various terminations are combined principles and have no standard, other than their comparative strength as to the crude drug, they have been omitted as a class. It has been deemed best to introduce only those dependent upon one active principle.

The coaltar synthetics have been omitted for the reason that they are not in accord with active-principle therapy, which commands:

"small doses of positive medicaments frequently repeated to effect," while the coaltar derivatives require massive doses at long intervals. While these may be and are used by many practitioners, their literature is so well known that it would be tautology to include them in this work.

In giving the physiological effects of the various medicaments described, only those which have a positive bearing upon the remedy used and which are necessary to be used during its administration for the protection of both physician and patient have been described. The more complete effects are found in more pretentious works on Materia Medica.

In keeping with that part of this work entitled "Therapeutic Suggestions," two or more remedies to be administered at the same time are mentioned, and they are in accord with the experience of many practitioners.

The dosage given in the following pages is the average minimum dose and as such is prepared in granule or tablet form by all leading pharmaceutical chemists. The full dose, however, is frequently given and is prepared in like manner by the same manufacturers.

I regret to have to record the death of my collaborator in the original of this work, Doctor C. C. P. Silva, and also the demise of Drs. W. F. Waugh and W. C. Abbott, to all of whom I am indebted for much information herein contained. I am happy, though, to express my gratitude to Prof. J. Uri Lloyd for like courtesies.

I can only reiterate the last sentence of the preface of the original work, and say that I hope my effort will be received in the same spirit as that in which it is issued.

W. T. THACKERAY.

ACTIVE-PRINCIPLE MATERIA MEDICA

With Physiological Effects and Therapeutic Suggestions

Aconitine

THE principal alkaloid obtained from the roots of Aconitum napellus and Aconitum ferox. The latter is generally the source of supply because of its greater yield.

Physiological effects: 1/500 grain, allowed to dissolve slowly in the mouth, will in a few moments provoke a sense of numbness of the buccal cavity and fauces, followed by difficulty in swallowing due to constriction of the throat. The systemic effects follow within fifteen minutes after its administration.

The number and force of the heart beats are reduced, respiration is slowed, the arterial tension lowered, the activity of the sweat glands and that of the kidneys is augmented, which fact constitutes this agent one of the most reliable of antipyretics. It also acts as a mild cholagog. The sensory and motor nerves are affected by Aconitine as well as the vasomotor system. The analgesic effect commences at the peripheral sensory nerves, the nerve trunks follow and finally the centers in the cord. The motor nerves are affected after the sensory.

A painful numbness affects the limbs, fingers and toes, and a general tremor of the whole body is experienced.

In toxic doses, all the physiological effects are heightened and death occurs by cardiac paralysis in diastole.

Therapeutics: Useful in all pyrexias and inflammatory conditions, to control hyperthermia and lessen vascular orgasms.

In all conditions of irritability of the gastro-intestinal and respiratory apparatus, its action is most satisfactory.

In hyperthermia, it should be administered in combination with digitalin and veratrine if the pulse is full and hard, and with strychnine if there is adynamia.

Burggraeve suggested its use as a preventive of inflammatory accidents following severe surgical operations and accouchements.

Dosage: 1/500 grain, in acute affections, every fifteen minutes or at longer intervals as indicated.

In chronic cases, 1/250 grain may be given three or four times daily, the thermometer should be the constant guide when using Aconitine.

Doctor Shaller advises, for children, that 1/800 grain for each year of the child's age, and one extra, be dissolved in twenty-four teaspoonfuls of water; the dose of this solution being one teaspoonful every ten to sixty minutes, pushing to effect.

The administration, in all cases, should be suspended if the toxic action of the drug is in evidence.

Aconitine hydrobromide: The chemist and clinician have demonstrated that this salt of aconitine is more soluble and more rapid in action than the alkaloid and, while the physiological effects and therapeutic uses are the same, the dosage is decreased to 1/800 grain, to be given every fifteen or thirty minutes until the pulse softens and the fever subsides; then as needed.

Adonidin

A glucoside from the Adonis vernalis.

Physiological effects: it slows the heart action,

lengthens the interval between beats; it raises vascular tension by contracting the arterioles. It also acts as a diuretic, increasing the flow of both fluids and solids. It is less cumulative and more rapid in action than digitalis. Many physicians find adonidin to be an admirable alternate for digitalis and it may be substituted for it in many cases with advantage.

Therapeutics: Adonidin acts more quickly and also more powerful than digitalin and, in some cases, appears to have greater curative power; it is indicated in all cases where either digitalin, strophanthin or sparteine may be used.

Dosage: 1/64 grain, repeated every fifteen or thirty minutes, until effect in acute cases; then *pro re nata*. In chronic cases 1/64 grain every three or four hours.

Aesculin

The bitter principle from the bark of Aesculus hippocastanum.

Physiological effects: There is little to say upon this subject, except, that aesculin relieves capillary stasis and vascular engorgement.

Therapeutics: It is useful in the difficult breathing of asthma when not paroxysmal in character. It is an effective remedy for internal hemorrhoids, proctitis, rectal neuralgia and pruritus ani. It is also indicated in congestion of the abdominal viscera.

Elimination with salines is a necessity in the use of aesculin.

Dosage: From 1/64 to 1/12 grain, every two to four hours.

Agaricin

The active principle of Polyporus officinalis.

Physiological effects: In small doses, it lessens the secretions of the salivary, mucous, sweat and milk glands; in large doses, it stimulates them and also causes vomiting and purging.

Therapeutics: Most useful in the treatment of night sweats.

Its action is slower than that of atropine. Useful in obstinate remittents with brief chills and prolonged fever, little or no sweating but jaundiced.

Dosage: 1/12 grain from three to six hours before retiring, in anticipation of the sweat, and repeated *pro re nata*. Atropine antagonizes agaricin.

Aloin

A neutral principle from Aloe Barbadensis, Aloe socotreria and Aloe vulgaris.

Physiological effects: Acts as a slow but powerful cathartic and hepatic stimulant, with special action upon the muscular coat of the large intestine rather than upon the glandular secretions, so that the evacuations produced by it are seldom watery. Also acts upon the female organs of generation as an emmenagog. When frequently repeated, it is apt to irritate the rectum.

Therapeutics: Very useful in constipation depending upon torpor of the lower bowel and in amenorrhea dependent upon anemia of the pelvic viscera. Griping is lessened by combining it with atropine and peristalsis increased by strychnine.

Dosage: 1/12 grain, three times daily before meals, and the same on retiring. The daily dose may be decreased, until at length the drug can be altogether discontinued.

Ammonium Benzoate

Physiological effects: A mild stimulant to the mucous, urinary and sudoriferous secretions.

Therapeutics: Tonic, antiseptic and expectorant. Indicated in bronchorrhea, high urinary acidity and in atonic cystitis.

Very useful in the coughs of children, especially whooping cough, to promote expectoration.

Dosage: 1/6 to 1 grain, well diluted every half to one hour *pro re nata*.

Ammonium Salicylate

Physiological effects: Similar to those of salicylic acid, but its action on the heart is less marked. It is a valuable antiseptic.

[*To be continued.*]

TREATING NEPHRITIS

For some time, I have been thinking of making a report of a case, treated about 4 years ago and with such good results that, doubtless, many will think (as one of our Guthrie surgeons remarked) that one might rather question my veracity in this case. The hints regarding treatment of such cases were obtained from the late Dr. Burgess' writings.

The call came at about 9 o'clock and found me with a well-developed case of lumbago (myself) on hand.

The father reported that the boy, about 10 years old, was struggling for breath; that feet, face, hands and in fact all parts of the body were swelling, and he was afraid the boy could not live until morning.

At that time, I had just finished reading Burgess' description of this most wonderful remedy in the world, Epsom Salts. As they had no other medicine in the house, it occurred to me that we had better try that line of treatment until morning; so the father was instructed to bathe the boy with hot Epsom-salt solution for

at least 10 to 15 minutes every hour, until morning, and that I would then come out to see him.

Imagine my surprise, in the morning, to hear that the boy was so much better that they were going to bring him in to see me.

There was still swelling, as before, but not nearly so much of it. I noted marked puffiness under the eyes.

A test of the urine revealed, as suspected, that it was heavily loaded with albumin.

With so much improvement apparent to even the patient and his family, in 12 hours, there was no need of any change; so, the father was instructed to give the bath, containing 1 ounce of Epsom salt to each pint of hot water, every hour, as long as any of the swelling lasted; also 10 grains of the remedy internally every hour until the bowels were moving freely, and nothing to eat except Bullison's soup (1 pint water with 1 tablespoon of corn meal boiled ½ hour); no more than this every 4 hours.

This treatment was faithfully carried out, due in part to the patient's grandmother appearing on the scene and telling them that dropsy would surely kill the boy.

Sunday morning, just 60 hours after Epsom-salt bathing was commenced, all the dropsy had disappeared and the urine contained only a very small amount of albumin.

The boy was kept on this diet for nearly two weeks, when he again started to school. He has remained well now more than four years.

The bathing should be done frequently, the child should be covered with warm clothing to induce free perspiration which, as a rule, is very sticky and should be wiped off frequently with a dry coarse cloth.

This may not be textbook treatment; but, certainly, it has proved effective in my hands.

W. M. Hatfield.

Mulhall, Oklahoma.

A CASE OF BRONCHOPNEUMONIA

I just came in from a case of bronchopneumonia in a child a year and a half old, that presents so many interesting points in the diagnosis and treatment of this disease that I thought it would be well to submit a report of it.

I was called to attend this child, Sept. 6th, at the home, 18 miles from town. I saw her at 2:30 p. m. She had had a convulsion at 11 a. m. followed by a rapid rise of temperature to 104° F., axillary. When I saw her, she was somewhat stuporous, but easily aroused and fully aware of her surroundings. I mention this in detail, because I think that the mental state helps us to form an opinion of the degree of toxemia. To simply state that the patient has stupor, without qualifying the degree of this stupor, does not give any adequate idea of the patient's condition. That is one of the reasons why the beginner has difficulty in diagnosing his cases from textbook descriptions.

The abdomen was flat and soft, so I could devote myself to obtaining a history of the illness. The first subject of inquiry was the gastrointestinal tract. The child had had a vomiting spell, late in the preceding evening, followed by a severe diarrhea—seven or eight watery mucous stools free from blood. She had not taken any food since. The mother had given her castor oil immediately after the convulsion, which was retained. There had been no constipation nor disturbance of peristalsis previous to this.

The next step in the diagnosis was, to determine whether or not the gastrointestinal infection was primary or secondary to some other disorder. I have already mentioned that the abdomen presented no signs of an inflammatory focus in the peritoneal cavity. I inquired then if she had had a cold. Yes, she had been coughing for several days. The whole family of ten had had colds. Ah, these colds! How lightly is this enfilading attack of the unseen enemy regarded! I proceeded then to examine ears, nose, cervical glands, thorax:—all negative. There had been no nasal discharge; a cough only, and a little restlessness the first two nights.

One would, no doubt, be justified in concluding that this was an ordinary case of cholera infantum. There was no cyanosis, no dyspnea, none of the classic symptoms of pneumonia but a bronchial cough. I prescribed 5 grs. of bismuth, 1 gr. of soda, 5 minims of paregoric, followed every five hours by half the initial dose. I directed that a teaspoonful of milk of magnesia be given, 36 hours later, to insure proper elimination after the initial dose. I withheld all food for twenty-four hours, although water by mouth was permitted. After the first twenty-four hours, a thin, slightly sweetened oatmeal gruel was allowed—a few teaspoonfuls every two hours.

While I was giving these directions, the child coughed. I tell you, that cough had an ominous sound to it. It awakened a lot of subconscious impressions stored up from previous experiences and, while I do not doubt that this practice, of allowing one's self to be guided by "hunches," or vague intuitions, may lead into error and is "very unscientific," still, it does not do to ignore such impressions. We all most

likely have many conceptions which we have never analyzed into their elements, but which analysis would prove to be quite true. It may be, too, that, with the necessity of diagnosing our cases largely from symptoms, we general practitioners are apt to attach more significance to some individual sign than a careful comparative study would really justify. Nevertheless, aside from the spasmodic postinfluenzal cough, I differentiate at least two kinds of bronchial cough, one a short staccato with little sputum and the other what is commonly called a loose cough. Most mothers make this distinction, but you don't see much of it in medical literature. Osler describes it somewhat, but he does not give it any diagnostic importance. Maybe I overestimate it—if so, it proved to be a fortunate decision in this case. I gave the patient between 3 and 4 minims of a mixed influenza vaccine, amounting to about 250 million organisms. Good-sized doses are well tolerated by infants of this age.

I saw the patient four days later, advising by telephone in the meantime. The condition was practically the same. The temperature ranged from 100 to 102½° F. There had been an interval of normal temperature, the second day after the administration of the vaccine. The stools were still very frequent. Perhaps, if this patient could have had a second vaccine injection when the temperature began to go up after the return to normal, the infection could have been definitely arrested. But, I did not give this, for two reason. First, I was not positive as to my diagnosis, and, second, this subsequent rise usually is not of a grave nature and very seldom calls for a second inoculation. Upon my second visit, however, there was no indication of the temperature abating, and I discovered numerous rales, especially at the right base. The mental condition and circulation were very good. The baby would ask for water and smile at those around her. There was a decided flush to one side of her face, and I am inclined to think that this sign is of value in pneumonia, although I have seen it on the side opposite to the consolidated lung. The mother called my attention to it. I like to give these mothers plenty of credit. I have learned a lot of medicine from them, and I am not ashamed of it. A lot of their notions may be rank empiricism, but many of those scoffers at empiricism remind me of the prophet's saying about "A fool wise in his own folly."

Well, to make assurance doubly sure, I gave her another vaccine injection a little smaller than the initial dose. Three nights later, I skidded up the hill in a heavy rain and spent the night with the patient. Temperature about the same, pulse good, respiration 52, color good, mental condition worse, indifferent to her surroundings, little inclination to take nourishment, stools greatly improved. I withdrew the bismuth sedative and prescribed a mild expectorant containing a minute dose of strychnine. I also ordered a daily tepid bath followed by general massage, and camphorated oil and turpentine to thorax—front and back.

A few days later, she showed some signs of nausea, and stools became more frequent. I discontinued the expectorant and gave caffeine citrate, gr. 1/10, twice daily. I changed feedings to dextrinized wheat flour and boiled skim milk. Two weeks after onset, the fever ended by crisis and the convalescence was uninterrupted.

There are many other points that I think are worthy of discussion, but I fear I have already iaid myself open to being accused of tedious repetition of well-known facts in an altogether too common a disease. The important essentials are:

1.—The frequency of intestinal catarrh in bronchopneumonia of children.

2.—The absence of physical signs at onset.

3.—Early vaccine inoculation.

4.—Careful judgment in medication—avoiding irritation of intestinal tract and yet providing sufficient elimination.

5.—Support of circulation by baths, massage, rubifacients judiciously applied.

6.—Non-putrefactive, non-acidophilic diet.

G. J. Warnshuis.

Forman, N. D.

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[Doctor Warnshuis' report gains materially in value on account of the comments with which he intersperses the report itself. It is interesting to follow the doctor in his reasonings and conclusions. It is, no less, instructive and suggestive to find that it is wise not to neglect a "hunch." While it must be admitted that it would be a serious mistake to act on a hunch, invariably, it nevertheless happens frequently enough that a socalled hunch is merely a suggestion made by the subsconcious which observes and reasons far more quickly than the conscious and may make serviceable impressions upon it.

There does not seem to be any need for insisting on the differentiation of coughs with different characteristics. Surely, there are varieties of cough and, with equal certainty, they do not all have the same significance. A cough may arouse but casual attention; another cough may make us sit up and take notice; a

third cough may fill us with dread anticipation of trouble to come. Pathogenic symptoms, like cough, should be studied carefully in every individual case. This particular symptom happens to be early enough to enable us in many cases to ward off serious trouble.—Ed.]

POLYGLAND THERAPY

It is not my purpose in this brief paper to enter into any discussion as to the physiological action of the different hormones, but merely to give to the reader the results of over ten years' experience with a polygland mixture. The formula which I have in mind is as follows:

Pituitary	5%
Thyroid	10%
Ovarian	40%
Testicular	45%

It is only necessary to state that this formula was arrived at after long experience and many trials and has been found the most satisfactory by me. My choice of administration is by hypodermatic injection at the beginning of the treatment, following later by oral administration if necessary. My reason for this method is—

1.—That I get the system more quickly under the influence of these hormones;

2.—That I have my patients under my observation and control until the case is well in hand.

The class of cases benefitted by this treatment may be divided into two groups as follows:

1.—Those in which this treatment exerts to all practical purposes a specific action;

2.—A large number of chronic conditions in which this formula may be used to great advantage in conjunction with other treatments.

Under group one we have, first, *Pregnancy.* In all cases of pregnancy, it has been my routine treatment to administer the above formula. It checks hyperemesis very quickly, it has also a beneficial tonic effect upon the patients, who feel better, eat better, sleep better. From my clinical experience, I fully believe also that their pains are more efficient at the time of parturition and that the treatment greatly lessens the danger of puerperal infection. From my experience, I conclude that it should be adopted by all obstetricians as a routine treatment.

Chorea:—Every practitioner meets with many cases of chorea in the adolescent girl and boy. In my opinion, it is a disturbed gonad function in the male, and ovarian in the female, that is the cause of the chorea. In these cases, I never use arsenic or any of the older remedies; the polygland mixture is my sole treatment. The disease is controlled very readily and the same gratifying result may be obtained in every case of true chorea.

Surgical Menopause:—All cases of panhysterectomy should be put upon this polygland formula immediately after operation and kept under treatment and observation on and off for at least one year. This will save these women from years of suffering. I have at present several such patients, one operated ten years ago, one four years ago, one two years ago, who had no such treatment after operation and who have suffered ever since the operation but have improved remarkably within ten days to two weeks, by this treatment.

Menopause:—Those women in whom the endocrine adjustment does not take place readily at this time of life and who suffer from the many unpleasant symptoms, such as hot flashes numbness of hands and feet, headaches, digestive disturbances, etc., are benefitted readily.

Second group: Chronic diseases in which this formula is used in conjunction with other treatments. We have in practically all chronic conditions a distinct disturbance of metabolism in which there is a much diminished cellular activity; the most common of these conditions in my own experience, are neurasthenia, chronic nephritis, arteriosclerosis, chronic duodenal ulcer, diabetes mellitus.

Neurasthenia:—In these cases, undoubtedly the phosphorus metabolism is benefitted. In conjunction, I use baths, exercise and diet.

Chronic Nephritis:—In these cases, the tonic effect of the polygland mixture is very beneficial with the use of almond emulsions, diet, duodenal washings, etc.

Arteriosclerosis:—I have had considerable success by alternating a polygland mixture with solution of Titanium Superoxide.

Chronic Duodenal Ulcer:—In many of these cases, we have a distinct upset of the phosphorus metabolism, and the polygland mixture benefits this type very much. Of course, I also use duodenal washings with chlorinated cerium albuminate and sodium phosphate solution.

Diabetes Mellitus:—In that type of diabetes mellitus which appears at the menopause, (see *Amer. Jour. Clin. Med.,* May and Sept., 1922) and which I believed to be endocrine in origin the use of polygland mixture is really the basis of my treatment. In these cases, I also use duodenal washings and a tablet containing the rarer elements Columbium, Titanium and Uranium.

My method of administration is, to give 1 Cc. hypodermically every 24 hours for at least 20 days. In cases which are more severe or where I have to gain full control of my patient, I increase the number of treatments. After the hypodermatic administration is finished, I advise oral administration of the same mixture.

The following are a few case reports:

Neurasthenia: O. P., male, age 50, ship captain; for past several years, had complained of indigestion with flatulence, became very irritable, depressed at times. From an unusually robust man, he became weak and tired easily; music irritated him very much; could not attend theater or church; became very nervous. Had been under the treatment of several physicians at different times. Before coming to me, had been in a sanatorium for two months. Left sanatorium because he became very weak and symptoms became aggravated. After physical examination and laboratory test, I made a diagnosis of chronic duodenitis and neurasthenia. Blood-pressure 110-90. Gave alternating doses of 2 Cc. of "Polygland" and 1 Cc. of the following "Neurasthenic combination":

Iron Cacodylate	0.03 Gm.
Strychn. Cacodylate	0.001 Gm.
Sod. arsenate	0.001 Gm.
Sod. glycerophos.	0.10 Gm.

Duodenal washings with medicated soap, and sodium phosphate, followed later by duodenal washings with 10% red wine solution (for distinct effect of the various tannates in the wine). After six weeks' treatment, he is at present very much improved; has gained 20 pounds. Symptoms almost entirely relieved; blood pressure 150-90.

Chorea: N. S., male, age 15. Diagnosis made about one year before seeing patient. Choreic movements very pronounced, speech interfered with, had been treated by several doctors who used arsenic, bromides etc. with but slight temporary improvement. Under a month's treatment of polygland mixture by hypodermatic use, symptoms entirely cleared up. Slight return of symptoms for a few days, at two different times, about a month apart. About eight months after beginning of treatment, boy is now entirely well and has been for some time free of symptoms.

Surgical Menopause: Mrs. A. G., age 39, panhysterectomy performed 1912. Very nervous, weak, tired, indigestion, insomnia, headache. At present, under treatment of six weeks, remarkable change in patient. The symptoms disappeared. Patient is now cheerful and happy.

Menopause: Mrs. J. R., age 50, last period at age 48, Vertigo, hot flashes, numbness of hands and feet, backache, pains in legs, melancholia. Treatment started about three months ago; now taking polygland mixture by mouth two weeks out of each month, all symptoms practically disappeared.

In conclusion, I might state that, as a result of my own experience with this formula, my opinion is that it is a valuable therapeutic agent and that its field of usefulness is very wide. As I have stated before, in many cases it is the sole remedial agent needed and in other cases it is a valuable adjuvant.

Rob't F. McDonald.

Brooklyn, N. Y.

QUACKERY PROBLEMS WITH SPECIAL REFERENCE TO THE CHIROPRACTOR

Much has been said during the past few years by members of the various medical organizations, in discussion as well as in the literature, concerning the menace of this increasingly grave problem which unquestionably merits our very earnest attention and endeavors, at this time.

One of the things that may be properly considered, first, is, where the chief responsibility for the evidently flourishing condition of the ever increasing multitude of quacks may be properly placed.

Among the vast army of pestiferous parasities that infest the land, especial attention may be given to the chiropractors, for the reason, first, that their numbers have recently been, and still are being, more rapidly augmented than perhaps any other, which increase may be accounted for by a consideration of certain things existing both within and without the regular medical profession. As some of the causative factors which arise outside our own ranks might be mentioned, the somewhat clever method of advertising employed by the proprietors of the diploma mills where the applicants for the "chiro-doc" degree are turned loose upon an unprotected public after a brief sojourn within their temples of "knowledge", where, too, a zeal perhaps worthy of a better cause is instilled into the faithful in lieu of scientific knowledge and acumen. Again, the fact of the well-known gullibility of the public must be considered, with their special predilection for being humbugged, and the significance of the protection afforded these "backbone-manipulators" by the state, in licensure, etc., thus allowing them to compete with the regulars (so called) who might well be

here designated as "the goats"; this in every instance where state and government legislation is concerned.

I have mentioned a few of the "reasons why," which exist outside our own ranks; and, now, I desire to remind you of one or two things within our ranks which may in part, account for at least the perpetuation of this particular "thorn in the flesh." I refer now to the prevalent and deplorable state of apathy which afflicts a goodly percentage of the members of the medical profession concerning the increasing importance of this menace, which apathy and inertia is taken advantage of by organized quackdom with a considerable degree of success and accomplishment, as can readily be seen by anyone who has kept in touch with medical legislation and other signs of the times during the past few years.

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Let us now examine into the claims of the "chiro-charlatans," attempt to determine whether or not there is any virtue in their methods of adjustment through their own-established manipulative measures.

Their doctrine (if it may be called such), as I understand it, is, that all the ills with which the human economy may be afflicted are directly due to the impingement of one or more of the spinal vertebræ upon some nerve trunk which impingement is ostensibly due to a subluxation, or displacement, of this vertebra, or these vertebræ, as the case may be; and that all that is required to render said afflicted one whole again is, to submit to their specially-devised technic of thrusting and pounding, which slams the obstreperous backbone-segment back into its proper seat. This asseveration is manifestly too absurd to call for even a denial by anyone who has even a fair knowledge of the various physiological and pathological processes of the body, albeit there are many seemingly fairly intelligent persons among the laity who swallow this gibberish without the evidence of a doubt.

Granting, as we may, that this clan may, occasionally (if we believe the statements of some of their patients), get results in a limited number of the cases which they treat, it is of importance to know how these seemingly favorable results are secured. This can be discovered, I think, by a study of the chiro and his subject.

It will be agreed, I think, that a vast majority of diseases are self-limited; that is, that they will run a more or less definite course, ending in recovery, regardless of the method of treatment employed. Also that there are many other disorders that will respond within a reasonable length of time to one of several methods of treatment. Here, too, must the all-important influence of the mind over the physical functions of the body be recognized and accredited; likewise, must the amelioration of some of the functional disorders, particularly those affecting the nervous system by an induced psychological state be admitted. These facts being recognized, we can thereby, in all probability, account for the majority of the socalled cures which we not infrequently hear about. But, let us admit likewise that there are also encountered from time to time, cases where there exist displacements, or subluxations, of the vertebræ, which conditions will yield to well-directed manipulative procedures, and, given a subject who has fallen into the hands of one of the chiros and who claims to have visited several of the "regulars" without having received any benefit, and who now declares that the skilled operator has accomplished the near-miracle of a cure, is it unreasonable to expect that he would be slow to impart the information to his friends and acquaintances, thus affording a fruitful means of assisting the marvelous healer to increase his local fame and garner more shekels the while?

That this somewhat exasperating condition of affairs prevails in our midst, is well known to all of us.

And, now, a consideration of what steps should be taken to remedy conditions above mentioned.

So far as I am personally aware, there has been nothing of any consequence accomplished thus far by any individual or organization which would tend in any appreciable degree to place a direct hinderance upon the exploitation of a notoriously gullible public by these parasites; and little has been attempted, except criticism for the most part. I do not wish to be understood here, as attempting to inveigh against a constructive form of criticism, for, I agree that this is well merited against this particular aggregation of quacks. But, I do wish to admonish, that criticism and condemnation alone will get us nowhere in the accomplishment of the end desired, viz.: a suppression of, or at least a control over, the conditions which now prevail and which make possible the existence of these charlatans.

We should realize at the outset, that it will require the combined efforts of the entire medical profession to wage an effective warfare and to eradicate the ravages which an organized quackery has wrought. They are apparently better organized than we, and it should not be necessary to effect any special organization to cope with this problem, if it were possible to

awaken to a sense of duty the members of our present medical societies. Yet, it may prove to be necessary to have an organization for business, also, in addition to the present ones which now functionate rather along the lines of scientific advancement and the promotion of the public welfare. In this connection, the thought occurs that, in effecting such an organization, it might not be amiss to pattern to some extent after some of the well-known organizations in the industrial world, this without sacrificing one iota of our self-respect or professional ideals. These organizations, or some of them, at least, get what they go after, which is more than we can say for ourselves thus far.

It is time to let it be understood that we are driven to the adoption of radical measures for self-protection by the imposition of detrimental and vicious state and government legislation aided and abetted by a more or less unenlightened and somewhat unappreciative public, also by a pernicious form of propaganda and by the outlandish lies which the chiros send out by way of the press and in other ways.

Just how and where this fight shall be initiated, is a question for the most enlightened and most sturdy warriors of the profession to ponder. Will our esteemed parent organization deign to raise the battle cry and carry the banner for us to a deserved victory? Or may we expect a similar apathy as that which has characterized their previous actions and contributed a "dud," as in the year of our Lord, 1921, which will be recalled by many with chagrin? In the words of the illustrious Patrick Henry, uttered upon a memorable occasion "we know of no way of judging of the future except by the past" and, judging from the past—enough said.

It is essential to our success in this fight to rededicate ourselves to the all-important task of, first, enlisting the interest of the entire reputable medical profession, if possible. Then, after they are awakened to the menace of present-day quackery, all shall contribute their active support in this campaign, or at least their moral and, if needed, their financial assistance. They should refuse to patronize the editors of the local publications who carry the ridiculous advertisements of these quacks, and should otherwise take them to task if necessary; also take severely to task any member of the medical profession who is guilty of the almost incredibly scandalous conduct which has been charged, (to my personal knowledge) of covertly working with the chiro-charlatans. The establishment of a closer bond of professional and social relations among our members is likewise here of importance, realizing that this has in the past been too greatly neglected, realizing also, that we have a common interest in the enemy at our doors, through which the necessity of presenting a united front is made obvious.

We must further strive, in our professional work, to avail ourselves of every known means of, first, attempting to arrive at a proper diagnosis of the case presented. This done, so far as is possible, to make use of every known therapeutic measure calculated to bring about an amelioration of the pathological state present. In this way, it is possible to keep many of the present quack "customers" in our own hands, with probable benefit to the patient and to ourselves.

I have remarked that we should use, whenever the indication is present, every known therapeutic measure of presumable value, and it is not improper here to offer the thought that, if, after an impartial investigation, it be determined that manipulative measures similar to or identical with those employed by the fakers have some virtue, at least to a limited extent, then we should not hesitate to make use of them when possible to do so. This, I think, may be done with both credit and profit to ourselves.

A final word in conclusion of this paper is, to re-assert, that, unless some concerted action is taken, soon, by members of the medical profession, to bring about a radical change in the existing state of affairs with reference to organized quackery and its practices, which is one of the reasons why the 1921 suicide list was headed by physicians, we shall one of these fine days awaken to the fact that now the "back to the farm movement" has received a great impetus, and 'twere perhaps better that some of us had not forsaken our original rural habitats.

A. Milton Cox.

Argo, Ill.

THE CHIROPRACTOR PROBLEM

It may be stated at the outset that the writer of this article is not a physician but is discussing, from the viewpoint of the layman, a certain problem which confronts physicians—the problem of the chiropractor; but which interests laymen and physicians alike.

It probably is not too much to say that, in every town of the United States, the practicing physicians are losing thousands of dollars annually through the competition of the chiropractors, and, more important still, many per-

sons die needlessly because of these gentry being called in in cases where prompt medical attention is essential if the patient is to have a proper chance for recovery. It is not only the ignorant and uneducated persons that patronize the chiropractor; many people of education and refinement, people who should know better, are misled by the glib talk of "subluxated vertebræ" and "impinged nerves," and are firmly convinced that all human ills can be corrected by a tampering with the backbone.

The initial strength of the chiropractor, of course, comes from his advertising. The ethics of a physician very properly do not permit him to advertise other than by the use of a simple "card" in the newspapers. Consequently, when the chiropractor has half a page of cleverly written publicity, illustrated with striking cuts of subluxated vertebræ and with "before and after taking" pictures, it is no wonder that many persons overlook the small and dignified card of the physician for the blatant professions of the interloper. Most of the chiropractor ads are written by able men in the advertising field and contain a line of "sales talk" which very effectively converts a considerable number of people.

A year or two ago, chiropractors in various parts of the country carried large space in the newspapers telling of a marvelous cure said to have been wrought on some boy in one of the northern states by the "science of chiropractic." It was a sensational sort of a story and attracted much attention. A doctor friend of mine has since told me that the advertisement consisted of misstatements and misrepresentations and that a complete exposé of the claims of the chiropractors in this particular case had been published in one of the medical magazines. Only physicians were subscribers to that magazine, however, and they doubtless knew already that the story as printed must be a false one. The general public, which was the one that the advertisement was designed to mislead, never had but the one side presented to it and, consequently, the affair was a great boost for the chiropractors and a corresponding blow to physicians.

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The feeling among the medical fraternity against advertising by individual physicians is insurmountably strong, and rightly so. This brings us to the problem which has been confronting physicians for several years: What can be done to counteract the pernicious activities of the chiropractor? It is to suggest a solution, that this article has been written.

It is not ethical for physicians to advertise as individuals, but there certainly could be nothing objectionable in a national organization of medical men carrying on a campaign of education through the columns of newspapers and magazines, explaining why a reputable physician should be called in case of illness. A series of ads like this would be carefully perused by those who need the enlightenment most, and such publicity would carry conviction—the truth is always convincing when properly presented. If every practicing doctor in the United States is losing hundreds of dollars each year from the competition mentioned, there will be few but who are willing to stand an assessment to help put the chiropractor out of business—and such a campaign, properly organized and carried out, would most certainly do this very thing. The American public is a thoughtful and intelligent one, although a certain portion of it is misled from time to time on matters that are not popularly understood. Once the true situation is placed clearly before it in language it can understand, it will take the sensible course. The "science of chiropractic" will not be able to withstand the light of publicity.

A campaign such as this would result in the saving of thousands of lives. Surely, there can be nothing unethical in that merely because it would also result in increased revenues for true healers who are devoting their lives to preserving the health of the human race by the best methods known to science. Here is certainly a case where ethics and profits go hand in hand. Innumerable misled sufferers need the right path pointed out to them and, if the physicians do not do it, then no one will. It is just another step in the service of humanity.

Ward L. Schrantz

Carthage, Mo.

TONSILLOPHOBIA

[Here is a little skit that you may let "Johnny's" mother read, in order to supplement your directions as to his diet and clean-out and personal hygienic care generally. It is written in Doctor O'Reilly's characteristic popular style. It will make a hit with Johnny's mother, we feel certain.

Amputating tonsils not hopelessly diseased, yanking out teeth that might be saved, and various other bits of "destructive criticism" of the ill-used body's misdeeds remind us of the doings of old Doctor Eisenbarth, who cured toothache by smashing the patient's head, and did many similar stunts. It is very much like freeing a dog of fleas by drowning him.

Let us have common sense guiding our advice to our patients. Fads and fashions never will be dependable guides. All successful and worthwhile treatment is common-sense treatment. However, we will let Doctor O'Reilly have the floor.—Ed.]

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In these days of ours, the family which can not boast of the removal of a pair of tonsils, or an appendix, or a half-dozen teeth, or a gall-bladder, or 'adhesions', can not expect to "keep up with the Joneses." We have grown so used to being bullied that, when a 'Public-Health Nurse' or some such busy-body enters our home and aggressively insists upon the removal of Johnny's tonsils, we do not stand upon our rights to cast her out into exterior darkness, but meekly submit Johnny to the loss of two very important organs which the Creator evidently designed to be the sentinels of the lungs.

If the fathers and mothers of children will take the trouble to swap notes with their neighbors, they will quickly learn that almost every child with enlarged tonsils is a "candy-kid"; one of those youngsters who "gets what he wants when he wants it"; one of those whose mother says: "Johnny is such a miserable eater; I have to coax and coax and coax; I think he needs a tonic." Yet, Johnny's stomach is chock full of chocolate-creams, lolly-pops, ice cream cones, nut sundaes, cream puffs, etc., which call for a lot of oxidation, to convert their sugars into something usable by the body, and Johnny is running and romping, as only a boy can, and should, and using up a lot of tissue which should be oxidized and destroyed and eliminated from his body, by way of the kidneys. But, *all this stuff can not be so eliminated* because the demand upon the oxidizing power of the body of this candy-kid is so great that the blood must be content to burn up the boy's body waste to a point *this side of perfection*, with the formation of waste-product-salts which must be deposited *somewhere*.

Now, Mother, no one knows better than you that in every house there is a "stick-away-closet" into which things are thrown, always with the firm purpose of "getting at that and straightening it out" which, of course, is not done until the accumulation of odds and ends is so great that the door will not close. You know, of course, that this "stick-away-closet" is not in the parlor or dining room but in some unused nook or cranny, some passive place which has no special connection with the "active" conduct of the house.

Just so in the human body. We have "active" tissues, such as muscles, nerves and the like, and we have "passive" tissues, such as bones and tendons and the sheaths or coverings of muscles, nerves, the capsules or coverings of joints, the sockets of the teeth or the lining of the tooth cavity in the jaw, the valves of the heart, the covering of the skull, *everyplace in the body* where it is necessary to connect something with something else or to establish a foundation for the active parts of organs of the body (like a tonsil) to do their work comfortably and well. Just picture the fiber of a grape fruit supporting the pulp and you have it. *Everywhere* we have what is known as *connective tissue*, and we Doctors call it *white fibrous tissue*. It is a purely passive tissue, having no active function to perform like a nerve or a lung structure would have, and having no power of stretching or being stretched (like a muscle) or contracting or being contracted. It is just a "passive," inert structure, like the forked stick, the pieces of string like a muscle-tendon and the piece of leather of Johnny's sling-shot. Only, the two pieces of rubber band, like a muscle, are capable of being stretched and, by contracting, shoot the pebble to its mark.

Now, Mother, you are not a Doctor, but you know perfectly well that you can not have, do, or make anything worth while without producing some waste and that the quality of work done is often measured by the kind of waste, like the neighbor who estimated the social standing of a new arrival on the block as "high" because they had "swell swill." So, Johnny's muscular energy in playing ball or his mental agitation in doing "sums", or his expenditure of vocal power in rooting for his team means the destruction of a certain amount of body tissue (and clothes) which must be oxidized, or burned up, until it is converted into a gas, called "urea" which must be (or should be) thrown out of that child's body, *as a gas*, by way of the kidneys and skin.

Suppose the oxidizing power of the body is taxed to its limit by the extraordinary demands made upon it by a stomach stuffed with mawkish, non-nutritional sweet stuffs—the oxygen contained in the red cells of Johnny's blood, *must* be given up for the absolutely necessary constructive work of Johnny's body and mind and, if there is any skimping to be done, it must be of the oxygen which nature intends for the *destructive chemistry* of Johnny's body; that chemistry which takes care of the destruction of the *dead-body-meat* resulting from the activity of the tissues of the body that you recognize as the scum on the surface of the

water in the bath-tub, which is the "scurf-skin" or the dead-skin structures which have "done their bit" and given place to new skin structures.

Under the circumstances of this reduced oxidizing power, there is incomplete destruction of the body-tissue-waste and, instead of burning it up to the formation of a *gas*, called urea, the blood is only able to expend sufficient oxygen to burn it to the formation of a *salt*, called urate of sodium, or urate of magnesium, or urate of ammonium, for instance, which can not be gotten rid of very easily.

Now, Mother, you know that, if you add an excess of sugar to your cup of tea, it becomes syrupy and thickened. So, also, the large quantity of these waste-product salts, if carried around in the blood current, would make *it* syrupy and sluggish of motion. To avoid this, Nature provides that these *waste-product-salts of the body* shall be thrown out of the blood current into the passive structures of the body —that white fibrous tissue, those "stick-away-closets" in the sheaths of muscles or nerves, in the capsules of bones, in the sockets for the teeth, in the gums, in the *tonsils*, etc., etc., *"until tomorrow!"* However, tomorrow's story is the same as today's, and next week's the same as tomorrow's and, instead of redeeming these promissory notes, more and more and more are made and distributed until the stick-away-closets are filled to overflowing, and outraged Nature compels specific attention to "growing pains" in a child, or a knee-joint rheumatism in a poor man, or an "acidosis" in a rich man (take your choice, the pain's the same), or a swollen and inflamed tonsil, which is promptly blamed for the rheumatism when, as a matter of fact, it is a *result* of the very same cause,—the *bad chemistry* which has resulted from overloading the oxidizing function of the boy's body with an excess of sweets in the stomach or an excess of liquid poisons in his large bowel because no attention has been paid to the proper movements of the boy's bowels.

What's the answer? Rip out a pair of tonsils which are apt to become swollen and inflamed *as a warning that the door of the stick-away-closet* won't close because the *limit has been reached* in the toleration, by the body, of retention of tissue waste? Or had you not better clean out the waste bin,—the bowels of little Johnny, with some sweet cascara or such mild cathartic as your Doctor suggests?

Then, had you not better put your Double-A-foot down firmly on the *"candy"* proposition and see to it that the child has plenty of milk and vegetables and vegetable soup and cornstarch, rice, bread and tapioca pudding, bread and butter,—a maximum of vegetables and cereals and a minimum of meat and sweets? . . . Some candy, of course, but the *cheap*, common, hard candy which is made with *cane sugar;* not the fancy stuff which must be made with glucose in order to hold its shape in the show case for a long time after it is made.

Then teach your boy to use the nose that God gave him; to blow it as the longshoreman does, "thumb to one side (the other free) and blow; forefinger to one side (the other free) and blow; then wipe" using a handkerchief to make the longshoreman's scientific plan a little more esthetic or elegant.

Then teach your youngster to breathe through that nose, so that the oxygen of the outer air will "do its bit" in purifying the nose cavities and keeping the membranes clean and free from "catarrh" . . . I know, there are a lot of doctors who taboo the word "catarrh" . . . You should worry about names; the *condition* is the thing you are trying to prevent. Then you may be quite sure that one cause of tonsillar irritation, coming down from the back of the nose in the shape of an unnatural and uncomfortable discharge, will be removed and, believe me, that is a lot better than removing a pair of tonsils which the poor kid will need to help protect his lungs, later on in life, from invasion by the tuberculosis germ, perhaps.

Occasionally—occasionally, mind you—a pair of tonsils is so rotten that they are *all* scar tissue and a roosting place for any old germ and have not enough pep or fighting-blood supply in them to put up any kind of a fight. All right; if they are *really* no good, have them out just as you would have a rotten tooth removed. But, for goodness sake! do not rip out perfectly good teeth because there is some Riggs' disease, or some perfectly self-respecting tonsils just because they cause some inconvenience when they warn you of danger. . . . You surely would not drop a flower-pot on a man's head if he rang your bell and awakened you from a deep sleep at three o'clock in the morning to tell you your house was afire? Then, why punish tonsils when they are only trying to act as sentinels?

JOHN J. A. O'REILLY

Brooklyn, N. Y.

DR. BORBORYGMUS CRITICIZES DR. POPEMOFF*

My dear Colleague:—

When I have the unspeakable charlatanismus of the verdammte impostor Popemoff in your

October number read, I am with indignation gefilled that he such a foolishness before a scientific audience attempt should.

For many years, in my laboratory, before war by jealous neighbors upon the Fatherland forced was, I labored on my arbeit "The Hetero-Testiculo-Transplanto-Rejuvenation of the Prematurely Senescent Male," and have thousands of experiments performed on cavies, rabbits and cocks, for the confirming of my theorem and the perfection of my operation's-technic.

In the Military Hospitals of Germany, with my assistant, Dr. med. Wotan Orfil-Schmel, I was able to do many most successful man-to-man transplantations in wounded soldiers. The gratitude of these poor soldiers, who were the fortunate recipients of these transplanted glands, was most elevating.

Soon after our victorious German Army their advance on Metz from the west began, I became a prisoner of war of the Americans and my opportunities for further researches were halted. In the prison camp, an officer of the American Army, with a name most difficult of pronunciation, Lieut. Doctor Stringemalong (who told me confidentially that he was of the Royal Family of Packingtown) seemed in my researches and discoveries much interested and commended my efforts with many strange American words which I in the dictionary not find can. His Highness told me much of the work of a surgeon of Chicago who grafted goat-glands on deacons. This surprised me, as I knew not that researches outside of Germany were done. I am unable to say with exactness what a deacon is, as I can not find of it any description in the biologic literature in the University library of Upsala; but I assume it is of the sheep family, different from those of the Fatherland, because His Highness the Lieut. Doctor told me that, after the transplanting operation, the deacons pursue chickens; which by German sheep not done is.

When the war ended was, in Upsala, where I went my studies to continue with peace and quiet, I thought much of the work of your Chicago surgeon and often to me recurred the hard-to-understand expression of His Highness, my friend of the prison camp, who habitually referred to some to-the-camp-attached eunuchoid individuals as "poor fish". One day, to me the thought came, "Why not make them good fish?" But how? Philosophically placed I datum by datum and my theorem developed. From my work in Hetero-Testiculo-Tranplanto-Rejuvenation in mammals, it was but a step the experiment to Pisces to extend. I did not Walruses go pursuing or Hudson seals like this dummkopf Popemoff, but I the fish studied which could easily obtained be in Upsala. After much observation and cogitation, excluded I all but the Gadus Morrhua. This fish, on account of his intense love-of-the-place-of-his-birth, his strong moral nature, his love of family, his fecundity and perseverance as a father, and the military formations and tactical instincts shown in his schools, had qualities which I at once recognized as worthy to be perpetuated in the super-race from which I am sprung.

I immediately made a preliminary report of my thoughts, not only to all of the German, Austrian and Swiss medical publications but I even a lengthy abstract sent to the *Rusky-Bunkski Medical Journal* of Moscow, from which journal, I no doubt have, Popemoff stole my idea.

Long before he started writing his nature-faker fish stories of armadillo and walrus prostates, I had my technic perfected and had successfully grafted a preparation obtained from codfish upon elderly but youthfully inclined gentlemen, with such gratifying results that I am now awaiting a command to proceed and place my invaluable services at the disposal of the Imperial Bridegroom of Doorn.

Respectfully,

DR. MED. A. BORBORYGMUS.

Upsala, Sweden.

Dear Editor: I am the "royal lieutenant" referred to by Dr. Borborygmus and modestly forward the above communication sent you through me.

ALFRED DE ROULET.

Chicago, Ill.

*See this journal, October, p. 758.—ED.

SALT AND CANCER. EXCESSIVE EXERCISE

In your December issue, you publish the view of a correspondent, that cancer is due largely to the excessive use of salt and that the harmful effects of sodium chloride can be systematically overcome by the administration of silver sulphide to counteract this harmful effect of excessive ingestion of common salt, and materially reducing cancer.

You ask for discussion of this important question. I have devoted twenty years to the study of cancer and have, incidentally, investigated the question as to whether sodium chloride plays an important part in the cause of the disease. I am satisfied that it does, but not exactly in the way in which the writer of the article referred to has concluded.

Bashford discovered, about twenty years

ago, that fish are most subject of all vertebrates to cancer, but, so far as I know, no investigation has attributed this to the irritating effect of the sodium chloride in salt water.

The inciting cause of cancer is local irritation. As the writer of the article referred to says, sodium chloride no doubt passes readily through the stomach and intestinal wall by osmosis, and may, no doubt, be a large factor in the irritation that induces cancer, although the fundamental physical and psychic causes of cancer should receive much more consideration, both in prevention and in treatment.

But, confining the attention now to the question before us, is sodium chloride broken up into its elements, in the organism, or does it pass through the kidneys and skin as it was ingested?

The commonly accepted view is that salt is the chief source of the Cl in the HCl of the gastric secretion. I can show by clinical experience that that is not correct.

According to the most trustworthy authority, the Eskimo use no salt at all; yet, their diet must require as much HCl as that of the average American.

For many months past, I might say for years, I have used no sodium chloride except the small amount that I happen to get in bread, nor have my children, who have maintained extraordinary growth, had any salt at all.

It would not be difficult to demonstrate that the sodium chloride ingested is excreted through kidneys and skin. I could undertake to furnish such a demonstration if the funds were available for the purpose, by both the clinical and laboratory method. This would be both interesting and valuable.

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Quite recently, two apt illustrations have come to my attention of the harm so generally done by incompetent direction of physical exercise.

A young woman who was afflicted with goiter was not only allowed but encouraged to engage in athletic contests in a girls' school, until she was placed in the care of a Chicago physician, who at once prohibited the excessive exercise and prescribed special exercises adapted to her case. This, together with the other treatment, gradually brought about a gratifying recovery. This young woman now understands how the excessive exercise was harmful, and she has learned how to exercise so as to secure benefit from it.

A student of Swarthmore College was properly directed in his exercise and made good progress in his studies. He removed to another school, where the direction was less capable, and soon broke down, as a result, apparently, of lack of proper regulation of his physical work.

It can not be too strongly impressed upon those in charge of youth and upon business men and women who need systematic exercise that this form of treatment ought to be prescribed according to the individual case, with as much skill as any other from of treatment for health restoration and health maintenance.

It is a strong recommendation of walking, as a means of exercise, that it is less liable to be misapplied than almost any other.

A man dropped dead a few days ago who had started taking a course of lessons of a "physical-culture expert" in Chicago.

Thousands have died while taking medicine, but it is not necessarily to be inferred that medicine causes the death in such cases. However, improperly-regulated physical exercise is a large cause of premature death. This observation was suggested by witnessing some physical-culture stunts at a "physical-culture carnival" at one of the armories in Chicago, recently, in which a few national champions figured.

Whether the half-sick young men and young women present, who were admonished to "get into the game", would do better to jump into the frying pan or remain weak (for most people are sickly, more or less, largely unfit and uncomfortable, for want of proper food, proper exercise, right thinking and other means of better health)—that is the question.

The men who do those remarkable feats, the champion boxers and wrestlers, were men of extraordinary physical development to begin with, and those of them who do live as long as the average, those of them who do maintain fitness more than ten years (which the majority do not) do so in spite of their bad physical training, not because of it.

About 15 years ago, we used to see pictures of a man named Dowd, who showed enormous muscles and proposed to teach you how to get the same. He didn't see fifty.

A few years ago, a mutual-insurance society decided that it would be a good plan to improve the health and prolong the lives of its members by adopting a system of physical culture. The secretary wrote to a man who was publishing his picture in a physical-culture magazine and offering to teach others how to have muscles like his and to be well.

The professor journeyed from New York to see the directors of the organization, nearly a thousand miles. But, when they saw him, they didn't want his system.

Proper physical exercise is one of the means of maintaining health and fitness and of prolonging life; but, much harm is done by improper physical exercises.

To be beneficial, exercise must never exceed the point of normal fatigue. A margin of safety must always be left. And, a period of rest should follow every muscular strain; it should be as carefully regulated as the period of muscular contraction, or strain.

Probably, all of those who exhibited remarkable strength on the occasion referred to, including some young women who danced most charmingly, were the worse for their performance of the evening.

Such exhibitions can do a great deal of good. Public funds might well be used to promote them. But, care should be used to see that proper instruction is given that will prevent harm through practicing blindly by following the practice of the average exhibition athlete.

Trotting horses are well fed and otherwise well cared for, continuously, and the champion horses generally live much longer than the average horse. We need a good mixture of science and horse sense in the training of athletes and in the training of amateurs.

THOMAS J. ALLEN.

Chicago, Ill.

ORANGE AND PECAN GROVE FOR SALE

A fortune, aside from practice, in the land of Sunshine, Fruits and Flowers. In the oil belt, between border and Tampico. One-hundred thousand bearing orange trees, near my property.

I desire to sell five hundred budded, bearing, paper-shell pecans; five hundred oranges, bearing; nearly one hundred acres of land, some sixty-five acres in pecans, oranges and sugar cane.

Perpetual water rights, good titles. Climate delightful, similar to that of southern California; near border. No revolutionary troubles there.

Same character of land as in California. Without water or oranges, it would be worth over $1000.00 per acre.

An American physician has been located there for the past fifty years.

Price very low. Liberal terms offered.

G. F. BROOKS.

Ysleta, Texas.

—

[Doctor Brooks informs us that preparations are being made for drilling for oil within twelve miles of this property. The offer seems to be an unusually good one for some physician who desires to retire from practice.—ED.]

EXAMINATION FOR JUNIOR PATHOLOGICAL TECHNICIAN

The United States Civil-Service Commission announces an open competitive examination for junior pathological technician. A vacancy in the Army Medical Museum, War Department, Washington, D. C., at $1,800 a year (plus "bonus"), and vacancies in positions requiring similar qualifications, at this or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer or promotion.

Applications will be received as late as January 16.

Applicants should apply at once for Form 1312, stating the title of the examination desired, to the Civil-Service Commission, Washington, D. C.; the Secretary of the United States Civil-Service Board, Customhouse, Boston, Mass., New York, N. Y., New Orleans, La., Honolulu, Haiwaii; Post Office, Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Calif., Denver, Colo.; Old Customhouse, St. Louis, Mo.; Administration Building, Balboa Heights, Canal Zone; or to the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R.

Applications should be properly executed, *excluding both vouchers and the medical certificate,* and must be filed with the Civil-Service Commission, Washington, D. C., with the material required, prior to the hour of closing business on January 16, 1923.

The exact title of the examination desired, as given at the head of this announcement, should be stated in the application form.

Applicants entitled to preference should *attach to their applications* their original discharge, or a photostat or certified copy thereof, or their official record of service, which will be returned.

A FEW WORDS ABOUT AUTOHEMIC TREATMENT

The *Western Medical Times* for November, 1922, contains an article on the subject given in the title and contributed by Dr. S. R. Klein, of New York City. Doctor Klein criticizes the socalled autohemic therapy. He says,

among other things.

"How can anybody say something about treatment and cure of blood diseases, when he does not know what erythrocytes are? What lymphocytes are? Where they come from? What is their physiological amount? And what the pathological percentage is? And, in so many cases, there are different findings. Every case is a specific case for itself. A man must be well acquainted with the foundation of medical sciences, familiar with the principal things in medical research, and first must know physiology, chemistry and pathology. How can a man do some work for you in blood diseases if he has not even an idea about blood chemistry? And what happens day by day? It is really remarkable that no one will undertake to make a bookcase if he is not a carpenter. Nobody can make a pair of shoes if that individual is not a 'professional' man in that line. But, medicine and surgery are some things where you do not need to produce anything, do not need to deliver any goods—just tell something about your 'great' experience, great success with patients; collect their names and fictitious addresses and you succeed—in making money—in abundance.

"Autohemic treatment is a dangerous problem—that is a sure thing! By destroying hemoglobin and corpuscles, I do not see how the centrifuged blood, mixed with distilled water, will operate in the system. How will antibodies be increased? What microorganisms will be killed, and how? How will we be able to increase phagocytes? How will the injected 'bloodless' blood operate in the infected area? How quickly will this defermented material act—the hemin and globulinless blood? What will show the specific gravity of the blood? The percentage of lymphocytes? Eosinophiles? Polymorphornuclear leucocytes? Or are they to be ignored entirely? Will the leucocytes increase? Will hemoglobin increase in cases of leukemia, pernicious anemia, tuberculosis, syphilis, et cetera? What will become of the 'purified proteins'? How will the sterilized, centrifuged, depotentized blood 'serum' act locally? Will the bacteria disappear? Will the hemin reappear in the urine? Sugar? Acetone? Diacetic acid? All these questions must be answered to the prompt satisfaction of the scientist, pathologist, biologist and physiologist.

"I know cases where the blood pressure became so terribly quick, high, vehement, 'impulsive,' that it took hours and hours, by an intelligent diagnostician and laboratory expert to eliminate the injected 'bloodless' blood." [Evidently that "bloodless" blood must have done something—was not inert.—Ed.] "With what, do you think? With a simple saline solution—of course! We can not do good work with defibrinated serum, or a serumless fibrin, attracting salt, and nitrogen, sugar, et cetera. The hemoglobin may be of the lowest grade of destruction. Still it is a protein which helps the blood instead of destroying it. And, if those research workers do not give any attention to our fifty-five-year-old bacterial theory, how do they explain the rapidly developing fever after such treatment? Is not fever the consequences of appearance of bacteria in the blood?" [Not necessarily bacteria, but of some foreign split protein.—Ed.] "Is not fever produced by specific bacteria, which are different in typhoid, cholera, pneumonia, tuberculosis, or meningitis?

"Should we abandon our great work with autogenous bacterins, which have been found competent in combating the living bacteria, as well as the dead; for improving the antibodies and phagocytes?

"Autohemic serum is to be condemned without question. It can not take the place of autogenous vaccines!"

—

[Doctor Klein takes it for granted that the originator of autohemic therapy does not know what erythrocytes and lymphocytes are, where they come from, what is their physiological amount, what is their pathological percentage, and so forth. If he refers to a certain Chicago "physician" who claims to have originated autohemic therapy and who advertises it widely to the public, we have no quarrel with him. However, if Doctor Klein accuses the actual modern protagonist of this form of therapy, Dr. Charles H. Duncan, of New York, it must be admitted that Doctor Duncan is an able physician of great erudition and experience. He based his theory and practice upon certain principles that are "Homeopathic" in their origin but that have more recently found acceptance in investigations dealing with the problems of immunization and of vaccine therapy.

We hold no brief for autohemic therapy, although recently we have seen some decidedly pleasing results from its practice. However, we conceive it to be one application of the specific-protein therapy, the protein injected into the circulation being in this instance not bacterial but homogenous. We doubt whether there is anybody who could explain the action of the reinjected blood any more than any immunizator has succeeded in explaining the *modus operandi* of a bacterial vaccine (whether

stock or autogenous, is immaterial) after its parenteral injection. Personally, we believe that we are dealing with an enzyme action, but we realize that we are simply using words and not very lucid ones at that.

The injection of blood abstracted from the patient himself has been followed in many instances by great improvement. French physicians have reported surprising results and, not so long ago, a South American physician related, in an article published in *The British Medical Journal* some experiences in which bronchial asthma was noticeably reduced after the injection of autogenous blood.

Frankly, we do not understand autogenous therapy, but we are not ready to say that it is quackery or charlatanism or that it is ill founded, or that it is to be condemned without question. It seems to us that there are several very insistent questions in the way of such broad condemnation. Whether it can or can not take the place of autogenous vaccines, is a question that need hardly to be advanced because, in certain cases, a vaccine will be indicated clearly while, in others, it would be senseless. If it is realized that autohemic therapy may claim to be the parent of serum therapy, the question may not seem quite so absurd as Doctor Klein would have us believe.—ED.]

PROGRESS IN THE USE OF ANTISEPTICS

If we will look back thirty years, when antiseptics were in their infancy, we can not help but note the radical change, especially in surgical practice. We now use no antiseptics in surgery at all, and very few in medicine. To make this clear, we must bear in mind that an antiseptic is an agent that will kill bacteria. The period in antiseptics, therefore, is now past; for, an agent that will kill bacteria will also destroy the tissue upon which they grow; and, now, we are in the age of asepsis rather than antisepsis. In other words, we are using agents that will render the field upon which the bacteria grow aseptic, or make the field uninhabitable for the microbes.

Metchnikoff has shown that the organism resists the localization and multiplication of pathogenic bacteria through the phagocytes which destroy them. It has been found possible to increase the number of phagocytes and to enhance their antibacterial action. Therefore, in the treatment of infection, we must do everything to help the system in all its functions as well as to treat the infection locally. For that reason, our measures must be directed toward increasing the resistance of the body and allowing the local infection to be expelled from the body.

Thirty years ago, all our measures were directed, more or less, to the local infection and, if we look back, we find that many cases of gangrene (sloughing) were due to the external application of strong antiseptic solutions, notably 1:500 bichloride of mercury, 5 percent carbolic-acid solution, and other such strong antiseptic solutions. Today, solutions of such strength are only used as disinfecting agents for clothes, bedding, etc., and not on the human body at all. I remember a hospital in Chicago that had an operating room built, in which, before every operation, bichloride steam would be used, and the operating room hermetically sealed so that they would be sure to kill all the germs in the room. During the recent war, we used very mild solutions, such as "Carrel-Dakin," "Dichloramine-T," "Normal Saline Solution," etc. We have paid the price for the use of antiseptics, and have now graduated to the stage of asepsis.

Now that we are convinced that we get better results from the use of aseptic solutions, we have abandoned entirely antiseptic solutions as surgical aids. Of course, we still have surgeons who will wash their hands in strong carbolic solution, and then wash that off immediately with alcohol. This measure, however, is also being entirely abandoned on account of the fact that it is not necessary; for, most surgeons use sterilized gloves, and experience teaches that we get better results with sterile (aseptic) goods than with antiseptic articles. No matter what we do in surgery, we must never lose sight of the fact that the part we are treating or operating on is a part of the whole body, and our results will be commensurate with the attention we pay to the various functions of the body as a whole in keeping up the natural resistance to the invasions of bacteria (immunity). Every surgeon must be well versed in the use of time-tested drugs and other modern measures of systemic treatment, if he wishes to give his patient the full benefit of the knowledge he is supposed to have. This fully agrees with the definition of a surgeon, as the late Prof. Nicholas Senn has laid it down; namely, "A surgeon is a physician who knows when and how to operate," and this definition is more true today than it ever was.

Surgeons will operate on presumably clean cases, will take every precaution to have the field of the operation aseptic and then perform the operation in a septic manner. Yet, infec-

tion does occur and, when it does, the average surgeon is at a loss to know how the infection was introduced, or what to do to keep it from spreading and ultimately cure it. If they would pay more attention to the proper functioning of the body, and would keep up the resistance of the patients, they would have much better results. For that reason, we have abandoned entirely the long period of preparation that we were accustomed to thirty years ago, and do no longer lower the resistance of our patient before operation. The wide-awake live surgeon will pay just as much attention to the systemic treatment after an operation as he will to his wound.

Above all things, the modern surgeon will keep from using antiseptics. The days were when antiseptics were even given per mouth with the idea of sterilizing the gastrointestinal tract. Of course, in the preparation of the patient for a genitourinary operation, the internal use of urinary antiseptics, if we may call them such (as hexamethylenamine or other such drugs that will, by liberating formaldehyde, render the urine aseptic) are a great aid. In operating upon the gastrointestinal tract, it may be advisable to give intestinal antiseptics and, for operations on the lungs, perhaps drugs like creosote, sulphocarbolate of zinc. But the sheet anchor of doing surgery successfully is the following rule:

To operate with as little shock as possible, both mental and physical; to see to it that the resistance of the body is kept at its highest point; to choose an anesthetic for the individual case; to do the operation with as little damage as possible, in as short a time as possible and, above all things, to avoid the use of strong antiseptic solutions to the wound.

Chicago, Ill. BENJ. H. BREAKSTONE.

DR. WILLIAM CLINE, OF WOODSTOCK, VA.

For many years, Doctor Cline, of Woodstock, Va., favored CLINICAL MEDICINE with occasional contributions, always on some practical topics on which he possessed an inexhaustible fund of information. More recently, Doctor Cline was keenly interested in the wonderful caverns that had been discovered and fitted up near his home and that are being visited by unnumbered tourists.

For several years, Doctor Cline complained, in his letters to the editor, that he could not recover promptly from a severe indisposition. It was apparent that he was feeling discouraged and tired. Quite recently, the doctor's daughter informed us of his passing away on November 19, 1922, at the age of seventy-eight years, six months and twenty-six days.

Doctor Cline was a representative of that class of practitioners that, according to many people, is doomed, but that refuses to die out, namely, the family physician. In his young manhood, he served with distinction in the Confederate Army. After the war, he studied medicine, first with his brother and then at the University of Maryland, where he graduated. He had practiced in Woodstock continuously since February, 1889.

We knew Doctor Cline well, as we know so many of our subscribers—through correspondence, and we loved him as a true, genuine family physician and practitioner of the old school, an honest man, devout Christian. Our personal relations with him have always been pleasant and cordial, and we shall miss his occasional letters. We know that he was anxious to go to his rest. Peace to his ashes.

What Others are Doing

THE ETIOLOGY OF TUBERCULOSIS

A Few Fundamental Factors

Allen K. Krause (*J. Outdoor Life*, 19:69, March, 1922) says that, from earliest times, etiological factors have been associated with phthisis or tuberculosis. The best known of these is that of familial or inherited disposition to tuberculosis. Phthisis has a tendency to recur again and again in many families, especially among young adults, and frequently after years have elapsed since any known familial contact with tuberculosis has existed. If, as it has been proved, family predisposition plays no part in this matter, it can only be explained by the fact that in the bodies of human beings there reside quiescent infections of every variety, extent and degree. Persons unusually exposed in childhood, as the offspring of tuberculous parents would be, carry into adult life more extensive and more lasting quiescent infections, which, in a greater number of instances would be more open to activities than in the rest of the population. The question of familial predisposition, however, will not be definitely settled until more decisive information is obtained from controlled experimentation in animals.

Among the factors which most writers would associate with variations in the course of tuberculous infection is that of the age of the recipient of tubercle bacilli. Observers practically agree that manifest tuberculosis is peculiarly and extraordinarily fatal to human beings during the first 2 years of life, comparatively benign from then until about 12 to 15 years, again increasingly fatal until about 30 or 35, and after this once more less malignant. The usual explanation is that tuberculosis is so florid in the infant, because its resistance is slight, due to the fact that infants have not been immunized by previous contact with germs. This proposition should be accepted with reserve. One should take into account the factors of high dosage and repeated infection with high dosage. A baby lives in a fixed and uniform environment. If a parent is consumptive, it will be in closer physical contact than the older children. If it is unfortunate enough to be fed on tuberculous milk, it receives a diet which is entirely contaminated with the germs of disease. Babies in such surroundings would therefore be expected to receive much larger numbers of tubercle bacilli, and this opportunity for greater dosage should be given its proper weight in accounting for the unusual malignancy of tuberculosis in infants.

CONTROL OF MALARIA MOSQUITO

Malaria causes serious agricultural losses in the Delta region of the lower Mississippi, in the reduced efficiency of plantation hands during the season of the year when the crops most need attention. The peculiarity of the shallow bayous in which the Anopheles, or malaria mosquitoes, breed abundantly is, that they do not have drainage outlets by which the surface water can be carried off. To meet this difficulty, the Bureau of Entomology conceived the idea of clearing a section of one of the bayous and impounding the water, to note the effect of a change from the swamp-like conditions of the natural bayou, especially in connection with the reduction of mosquito breeding.

In Department *Bulletin* 1098, "Impounding Water in a Bayou to Control Breeding of Malaria Mosquitoes," by D. L. VanDine, Entomologist, the story of this successful experiment is told. A section of Bayou Walnut, at Mound, La., was cleared of all vegetation. By means of a cross-levee, or fill, and spillway, the water was kept at a sufficient height over the bed of the stream above the dam to prevent the further growth of vegetation. A clean margin was maintained. It was necessary also to make some provision to prevent crawfish from working through the fill and causing serious leakage.

There were several advantages to the plantation from the impounding work, apart from the control of the mosquito breeding. A permanent supply of good water for live stock during the dry season was obtained; there was an extension of the land available for pasture; the deeper and more extensive water of the impounded area offered a favorable place for game fish, thus furnishing a source of food; and the lake-like body of water afforded recreation to the plantation people; moreover, it added materially to the attractiveness and value of the property.

Among the Books

HERTZLER: "THYROID GLAND"

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M.D. With a Chapter on Hospital Management of Goiter Patients. By Victor E. Chesky, M.D. Illustrations. St. Louis: C. V. Mosby Company. 1922. Price $5.00.

Hertzler has a splendid reputation as a surgical thinker and he writes as he thinks.

The present volume, like several others from his pen, contains a good deal of his own personal experience, and this, in the Reviewer's opinion, makes the book particularly valuable.

While, as a teaching monograph, it takes into consideration the needs of the student and general practitioner, it is one that carries very little ballast in the way of quotations from other authors.

Hertzler tells you all about the anatomy, physiology, pathology and diagnosis of diseases of the thyroid gland—the author pays little attention to any other disease than goiter—and, finally, shows every step of thyroidectomy. One chapter, by Doctor Chesky, deals with the hospital management of goiter patients and is sweet, because brief. The chapter needs editing; for, in one point, the author talks of goiter patients as "she", as if goiter were a gynecologic disease.

The illustrations, especially the histologic ones, are especially good. Paper, print, and binding are of the best.

There is no question that a persual of this monograph will keep the reader abreast of the goiter problems. Of course, as has been said, the book is the result of one individual's experience, and this must be taken into account. While the teachings are sound, here and there one will not agree with him. Thus, the Reviewer is a firm believer in the value of the x-rays, as a preparatory measure, in the so-called toxic goiters. The labors of the late Carl Beck, of New York, are still fruitful, as the writer of these lines can testify. Indeed, he has seen tachycardia and nervousness yield promptly to a few x-ray applications and he can not but feel that, when Hertzler speaks of the x-rays as a means of entertaining the patients while they are in the hospital awaiting operation, he has chosen an unfortunate vocabulary. Not everything in medicine is "psychic". There is such a thing as material results of very material remedies—and the x-rays are one of them.

But, on the whole, the monograph is a splendid and valuable literary effort. [G. M. B.]

WOLBACH: "CANCER"

New Growths and Cancer. By Simeon Burt Wolbach. Cambridge: Harvard University Press. 1922. Price $1.00.

This little volume is a reproduction of one of the popular "Harvard Health Talks" delivered at the Medical School of Harvard University. They aim to provide in easily accessible form modern and authoritative information on medical subjects of general importance.

The author's presentation of cancer is not so interspersed with scareheads and alarming assertions as are many modern articles. Professor Willcox, of Princeton, is quoted as saying that, despite frequent assertions to the contrary, cancer mortality is not actually increasing. The author adds that, in his opinion, we may feel fairly secure in continuing our general habits of living without the fear that we are drifting towards an era of cancer. Cancer prophylaxis remains a problem concerning individuals, and education our sole means of effecting results.

HUTCHISON: "FOOD"

Food and the Principles of Dietetics. By Robert Hutchison, M.D. Illustrated. Fifth Edition. New York: William Wood and Company. 1922. Price $5.00.

This new edition of Doctor Hutchison's includes the results of the author's experiences and observations during and after wartime. He belonged to the Food (War) Committee of the Royal Society and also acted as medical adviser to the ministry of food. In these capacities, he had considerable experience in the problems of rationing, the results of which are in part embodied in the text.

In the chapters dealing with feeding in disease, the author declares that his object has been to explain the principles upon which dietetic treatment should proceed rather than to construct menus; believing that, if these principles are grasped, it should not be diffi-

cult to draw up a detailed diet suited to the circumstances of the individual patient.

Hutchison's textbook is one that we consult very frequently and always with decided satisfaction. The Reviewer can recommend this cordially to general practitioners.

National Conference of Social Work

Proceedings of the National Conference of Social Work. At the Forty-Ninth Annual Session Held in Providence, Rhode Island, June 23-29, 1922. Published for The National Conference of Social Work by The University of Chicago Press, Chicago, Ill. Price, Cloth, $3.00, postpaid $3.15.

This volume, containing the transactions and the papers read before the National Conference of Social Work, constitutes a tremendous fund of information on matters that interest the physician as a physician and also as a hygienist, a sanitarian and as a citizen. The papers are arranged under the following divisions: Children, Delinquents and Correction, Health, The Family, Industrial and Economic Problems, Neighborhood and Community Life, Mental Hygiene, Organization of Social Forces, Public Officials and Administration, The Immigrant.

FITZGERALD: "PREVENTIVE MEDICINE"

An Introduction to The Practice of Preventive Medicine. By J. G. Fitzgerald, M.D. Assisted by Peter Gillespie, M.D., and H. M. Lancaster, B.A.Sc., and Chapters by Andrew Hunter, J. G. Cunningham, and R. M. Hutton. With Appendix Articles by Various Contributions. St. Louis: C. V. Mosby Company. 1922. Price $7.50.

Doctor Fitzgerald argues correctly that physicians in general practice must become integral factors in the public-health program in a much larger measure than has been the case hitherto. There is need of the cooperation of the family physician with public health workers to insure the smooth running of the public-health machine. This additional service should supply the necessary care and supervision of the general health of individuals which, of course, falls within the duties of the general practitioner.

The book outlines some of the work of the physician who is to function on the preventive as well as the curative side of medicine. It is a handy volume of 805 pages of text and 11 pages devoted to the index. It deals with all those diseases that concern the community as much as the individual. Some chapters are devoted to food, including water; others to domestic and community sanitation, to school hygiene, maternity, infant and child hygiene, industrial hygiene, public health clinics and health centers. The text impresses us as being very carefully prepared and as covering very excellently a multitude of subjects concerning which general practitioners should be informed.

BARKER: "CLINICAL MEDICINE"

Clinical Medicine. I. Tuesday Clinics At The Johns Hopkins Hospital. By Lewellys F. Barker, M.D., LL.D. Illustrated. Philadelphia: W. B. Saunders Company. 1922. Price $7.50.

This book is a reproduction of clinics held at the Johns Hopkins Hospital by the author. It combines, in a way, the two methods of teaching now striving for supremacy. In the attempt to improve upon the old, purely didactic, form of teaching, the author believes that students were introduced to actual clinical work too abruptly and that the older forms of the amphitheater clinic and the clinical lecture have been neglected unduly. The fact that formerly an excessive didacticism prevailed does not justify, in the author's opinion, the complete elimination of a clinical lecture.

In his "Tuesday Clinics", Doctor Barker has combined the two methods very effectively. His own lectures are interrupted by reports from the attending physician, by questions put to students and also by them (and, naturally, the necessary answers). In short, Doctor Barker has succeeded in these lectures in making the subject of the study of disease extremely interesting and attractive to the student; in enlisting the active cooperation of the latter and in obliging him to take part in the clinical teaching and being taught. Looking over this volume, we are sorry that we can not go to school again. We should like to be one of Doctor Barker's students.

LORAND: "LIFE SHORTENING HABITS"

Life Shortening Habits and Rejuvenation. I. The Ten Chief Life Shortening Habits. II. The Rapid Ageing of Women. III. Rejuvenation. By Arnold Lorand, M.D. Philadelphia: F. A. Davis Company. Price $2.50.

Doctor Lorand enumerates as the ten chief life shortening habits, alcoholism, overeating, the use of tobacco, sexual indiscretion, uncleanliness, ambition, avarice, anger, vanity, avoidance of parenthood. He attributes the rapid ageing of women to the influence of smoking, the influence of insufficient nourishment and reduction cures, the influence of an

improperly constituted diet, the influence of insufficient intake of fluids, the influence of unduly frequent use of purgatives, the influence of cosmetics; the influence of anticonceptional practices.

The last part of Doctor Lorand's book is devoted to the subject of rejuvenation, and in this he refers to the ingestion of animal-gland preparations, to the use of certain drugs, of the ultraviolet rays, of natural and artificial sunlight, and the use of radium baths. Doctor Lorand is well known for his advocacy of sensible dietetic habits and of hormone preparations. His latest book, which was written partly under the stress of wartime, is, like his preceding ones, stimulating, encouraging, constructive. His teachings are sound and his presentation is attractive.

MACLEOD: "PHYSIOLOGY AND BIOCHEMISTRY"

Physiology and Biochemistry in Modern Medicine. By J. J. R. MacLeod, M.B. Assisted by Roy G. Pearce, A. C. Redfield, and N. B. Taylor, and by others. Fourth Edition. Illustrated. St. Louis: C. V. Mosby Company. 1922. Price $11.00.

New editions of MacLeod's work follow each other in surprisingly rapid sequence, if it is considered that the subject treated is by no means easy. And, yet, the fact that new editions are constantly called for is not so surprising. The textbook is one of those that one wants to read and study at leisure. When it is realized that disease processes are really those of perverted physiology, it is self evident that knowledge of physiology, both normal and abnormal, is essential for a proper understanding of disease.

The text is divided in nine parts, containing a total of 104 chapters, covering 971 pages. In the first part, the physico-chemical basis of physiological processes, we find such intriguing topics as acidity, H-ion concentration, acidosis, colloids, ferments, enzymes. Part II discusses the blood and the lymph. Part III is devoted to the circulation of the blood, the last chapter of which deals with shock. Part IV deals with respiration; Part V with digestion; Part VI with the excretion of urine; Part VII with metabolism—one of the highly-important subjects of present-day studies. Part VIII attracts us particularly, being devoted to a discussion of the endocrine organs, or ductless glands. In Part IX, the central nervous system and the control of muscular activity are considered. Here we find a chapter on the autonomic nervous system, or the efferent pathway to smooth muscles and glands.

If this outline of the contents of MacLeod is not sufficiently tempting, you had better buy the book and study it for yourself. You will find much in it that you did not know.

OCHSNER: "PHYSICAL EXERCISES"

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner, B.S., M.D. Second Edition. St. Louis: C. V. Mosby Company. 1922. Price 75 cents.

This little book has evidently found ready acceptance, since a second edition has become necessary. It is intended especially for patients who are convalescing from surgical operations or from severe illness and also for persons who are engaged in sedentary work and who, because of lack of proper physical exercise, are below par. As far as we can judge, the exercises given, which require no apparatus whatever, are very excellent and effective.

OLIPHANT: "MATERNITY"

Maternity and the Care of the Child. A Book of Valuable Information for Prospective Mothers. Fourth Edition. Published by H. N. Oliphant, M.D., Frankfort, Indiana.

Doctor Oliphant's useful little booklet has been reviewed before in these pages. It is written in a popular style and is intended for the direct information of the prospective and the actual mother.

Part I deals with pregnancy and gives good advice to the pregnant woman; the best part of it being that she should place herself under the observation of a competent physician early.

Part II is devoted to the care of the baby. Part III contains tables of general information relating to the care of the baby, including a dietary. In Part IV, we find supplementary tables suggesting what to do in case of accident. We like the book and should not hesitate to hand it to our pregnant patients.

KELLOGG: "NEW DIETETICS"

The New Dietetics. What to Eat and How. A Guide to Scientific Feeding in Health and Disease. By John Harvey Kellogg. Battle Creek, Michigan. The Modern Medicine Publishing Co. 1921.

John Harvey Kellogg's "New Dietetics" studies the subject of dietetics exhaustively. With Doctor Kellogg, diet is not a fad; it is an exact science. After reading about vitamines, food salts and food acids and their relationship to good health, one is tempted to

speak of the "alkaloidal therapy" of food, as it were. After all, is not fat-soluble A specific in rickets, and unpolished rice in pellagra?

As editor of *Good Health* and medical director of the Battle Creek Sanitarium, Doctor Kellogg was enabled to conduct numerous and comprehensive tests on specially-selected squads of men and women. This lends authority to what he has to say and incites favorable attention.

In his book, Doctor Kellogg studies the digestive process and with good reason. Following the classic work of Prof. J. A. Pavlov, it is well to remind us that a diet indulged in from a sense of martyrdom and food taken without pleasure, without giving rise to what he terms "appetite juice" induced by the sight and smell of appetizing food, is bound to remain fruitless. Prof. Pavlov's remarkable experiments proved of such interest to Doctor Kellogg at the time that he undertook the trip to Petrograd to study them at first hand.

The New Dietetics is encyclopedic in scope. There are 900 pages of it. Yet, it is a chummy, chatty, readable book. It is a gold mine of facts, a sweeping survey of the whole field of dietetics. [S. E.]

LABAT: "REGIONAL ANESTHESIA"

Regional Anesthesia. Its Technic and Clinical Application. By Gaston Labat, M.D. With a Foreword by William J. Mayo, M.D. Illustrated. Philadelphia: W. B. Saunders Company. 1922. Price $7.00.

Regional anesthesia must not be confounded with local anesthesia, because it goes much further than the latter. It interrupts the sensory-nerve conductivity of the region of the body to be anesthetized and procures a "blocking" either of the nerve paths or of the field of operation. With local anesthesia, the anesthetic fluid is injected along the line of incision or within the structures of the surgical wound and is more limited.

We are under the impression that the author of the book before us probably has done more research and practical work in regional anesthesia than anybody else in this country. He certainly has succeeded in presenting the subject in a remarkably useful manner.

After the introductory chapter, with its general considerations, the succeeding ones take up the following subjects: General Principles of Technic; Blocking of Cranial Nerves; Operations on the Head; Blocking of Spinal Nerves; Operations on the Neck; Operation on the Upper Extremities; Operations on the Thorax; Operations on the Abdomen; Genito-Urinary and Rectal Operations; Operations on the Lower Extremities; Intraspinal Block (Spinal Anesthesia); Discussion of Spinal Anesthesia; General Discussion of the Value of Regional Anesthesia.

The book is provided with a full and excellent index.

COMRIE: "THOMAS SYDENHAM"

Selected Works of Thomas Sydenham, M.D. With a Short Biography and Explanatory Notes by John D. Comrie, B.Sc., M.D. New York: William Wood & Co. 1922. Price $3.00.

Physicians who are interested in the history of medicine will find this little book on Sydenham of great interest. It is to Sydenham that we owe much of the progress in medicine which changed the views and methods of physicians in the second half of the seventeenth century.

Sydenham was essentially a clinician. He insisted that it is at the bedside alone where one can learn disease. True, with our present-day methods of study, we learn much about disease in the pathological and also in the physiological laboratory. Nevertheless, Sydenham's insistence upon bedside study may well be taken to heart by those among us who are inclined to stress unduly the importance of the laboratory.

The little book contains fragments of those writings of Sydenham that made his name famous for all times. We have enjoyed reading it.

LIBBY: "HISTORY OF MEDICINE"

The History of Medicine In Its Salient Features. By Walter Libby, M.A., Ph.D. Illustrated. Boston and New York: Houghton Mifflin Company. 1922. Price $3.00.

Here is another little book that will appeal to the student, especially to him who has a predilection for the history of medicine. It is a long cry from the view of the Egyptian priest-physicians that the cause of disease was the malice of a demon, the justice of an avenging god, the ill-will of an enemy, or the anger of the dead—and our present-day theories (not to use the more boastful expression "knowledge") according to which disease is incited by the invasion of pathogenic microorganisms or is brought about by a chemical poisoning because of faulty metabolism or through various other agencies. The course of human thought during all these centuries is interesting to trace and a book like the present one will surely make us grateful for living in an age in which we can claim credit to many real

accomplishments even though it would be a serious mistake to make pretentions to complete knowledge.

We can cordially recommend Doctor Libby's History of Medicine to the general practitioner. It is not compendious enough to alarm nor bulky enough to frighten the reader. It is interestingly written and the presentation of the material is splendid.

SOLLMANN: "PHARMACOLOGY"

A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology. By Torald Sollmann, M.D. Second Edition, Entirely Reset. Philadelphia: W. B. Saunders Company. 1922. Price $7.00.

This excellent manual can best be introduced by quoting from the announcement of the publishers some remarks concerning its important features:

Arrangement: Two sizes of type have been used throughout, the larger print giving a connected and concise statement of the essentials of pharmacology, the smaller type containing more detailed data for consultation.

Plan: To those drugs that are really and generally used, extensive consideration is given. The new drugs and remedies are emphasized with definite instructions for their use.

Prescription Writing: This section is simple, easily understood, and will fully equip the student for the correct writing of prescriptions.

References, especially to recent literature, are numerous and of valuable assistance. There is an extensive bibliography of 59 pages.

The Appendix, in addition to the extensive bibliography, contains a tabulation of average doses classified with reference to their importance and a check-list of important preparations.

Newness: The revision for the second edition, pubished February 1922, was unusually heavy, the book being reset from cover to cover. Important additions and changes have been made to every part of the text.

"MEDICAL CLINICS OF NORTH AMERICA"

The Medical Clinics of North America (Issued Serially, one number every other month). Volume VI, Number 1, July, 1922. By St. Louis Internists. Illustrated. Vol. VI. Number 2. By San Francisco Internists.

Philadelphia: W. B. Saunders Company. Price, per clinic year (July 1922 to May 1923), Paper $12.00; Cloth, $16.00 net.

In the St. Louis Number (No. 1), some of the attractive subjects dealt with are the following: Endocrine Adiposity (Dr. William Engelbach); Pubertas Præcox (Dr. John L. Tierney); The Use of Lactic Acid Milk (Whole Buttermilk) in Infant Feeding Over Long Periods (Dr. Borden S. Veeder); Acute Intermittent Cardiac Decompensation (Dr. Elsworth S. Smith); A Bacteriologic Clinic—Diagnostic Methods (Dr. Ralph A. Kinsella).

In the San Francisco Number (No. 2), the clinics that appeal to us particularly are: Paroxysmal Tachycardia. A Case Where Quinidin Lessened the Frequency of Attacks (Dr. Albion W. Hewlett); The Influence of the Hydrogen-ion Concentration and Buffer Value of Foods on Digestion, with Special Reference to Infancy (Dr. Harold K. Faber and Fannie Hadden); Syphilitic Aortitis (Dr. Eugene S. Kilgore); Bacterial Asthma in Children. The Role of Infection and the Value of Vaccine Treatment (Dr. Samuel H. Hurwitz); A Case of Adult Myxedema and One of Childhood Myxedema (Dr. Hans Lisser); The Radium Treatment of Carcinoma of the Mouth (Dr. Laurence R. Taussig).

"THE ROCKEFELLER FOUNDATION"

The Rockefeller Foundation. Annual Report. 1921. The Rockefeller Foundation, 61 Broadway, New York.

The Rockefeller Foundation. International Health Board. Eighth Annual Report. January 1, 1921, to December 31, 1921. 61 Broadway, New York. January, 1922.

These reports are of more than general interest, for the reason that The Rockefeller Foundation concerns itself with many investigations and practical undertakings that make for better health. We need mention only the survey of the hookworm situation, the movement for malaria control, the divisions of medical education, of medical research, and so forth, and make good our point.

We believe that interested physicians can obtain copies of both reports by writing to The Rockefeller Foundation. It will well pay them to do so and to study both publications.

Brigadier General Robert E. Noble
Assistant Surgeon General, United States Army

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 30, No. 2 FEBRUARY, 1923

Brigadier General Robert E. Noble

BRIGADIER GENERAL ROBERT E. NOBLE was born November 5th, 1870, in Georgia, and received the degree of Master of Science from The Alabama Polytechnic Institute, when a little over twenty years of age. Eight years later, he graduated in medicine from the medical department of Columbia University of New York. In 1901, he passed the entrance examination for the medical corps of the Army as first lieutenant. Five years later, he was promoted to the rank of captain and, in less than four years, he rose to the grade of major, medical corps.

His most noteworthy work was done as assistant to General Gorgas in the Panama Canal Zone, where he found ample opportunity for initiative in sanitary and administrative posts of responsibility.

He accompanied General Gorgas to the capital and, at the outbreak of the World War, was given duties involving the building up of the huge volunteer medical corps. He made extensive trips of inspection through the various concentration camps in the United States. In May, 1917, he, with many other regular-army medical officers, was raised to the rank of lieutenant colonel and, early in 1918, to the grade of colonel in the National Army. In May, 1918, he was made brigadier general, National Army, Medical Corps. In October of the same year, he was appointed assistant surgeon general with the temporary rank of major-general, and sent to France.

For a long time, he served as chief surgeon of Base Section No. 2, comprising a large section of southeastern France, containing many base and camp hospitals, embarkation camps, depots, etc. In addition to having disciplinary and supply control of all hospitals, the problem of returning thousands upon thousands of sick and wounded officers and men to the United States was a tremendous piece of administrative work which was carried out without a hitch.

For a brief period, General Noble was in charge of medical activities with Base Section 5, at Brest. Then he returned to the United States and was assigned to duty in charge of the Library of the Surgeon General's office.

General Noble was appointed a brigadier general in the regular establishment, in March of 1919. He received the Distinguished Service Medal. The French Government conferred on him the Legion of Honor, grade of commander.

General Noble has a tremendous capacity for

work, and for hard work. A man of rare judgment, he is a quick thinker, capable of overcoming great obstacles and difficulties by will power and determination. In the prime of life, he is already counted among the most valued officers of our army.

One of the surest keys to success lies in thoroughness. No matter how great may be the enterprise undertaken, a regard for the small things is necessary. Just as the little courtesies of every-day life make life worth living, so the little details form the bone and sinew of a great success.—Edward Bok.

WANTED—A VOICE

In concluding his article, "Mene Mene Tekel Upharsin," which appeared in the "Good Medicine" department of the January issue, Doctor Candler expressed the opinion that "perhaps, if we bucked up and developed a *Voice* which could be *heard* when we raised it, together with a corporate kick ('to be used in emergencies only'), we might be happier"—and less liable to suffer insult and injury at the hands of the ungodly." "We", of course, means the real body of the Profession—those thousands of practicing physicians who by the very nature of their calling are more or less isolated from their fellows and, like "the sheep before her shearer," *dumb* when it would seem vitally necessary to utter an effective protest against procedures which despoil, or otherwise injure, them most seriously.

That the doctor fully realizes his discomfort when things are "put over on" or being "rubbed into" him, goes without saying, but his wail of anguish or howl of protest, uttered as it is, *solo,* attracts no definite attention and, bearing no threat of a really potent *kick* behind it, fails to halt the particular "skinning" or "roasting" process to which he is at the moment being subjected.

On dispassionately reviewing the happenings of the past decade, we are compelled to conclude that at least half the casualties, We have suffered during that period, could have been prevented had we been able to express ourselves *tout ensemble* and *forte fortissimo!*

It is not difficult to imagine what would have happened in a score of instances where We—or a large proportion of us—suffered at the hands of politicians, ringsters or uncouth marauders with a reforming bent, if even fifty thousand physicians had been able with one voice to shout "Stop Thief!" or even merely firmly declare, "We will not have it so!" The Thief *would* have been stopped and the things, *We* willed should not be done, would Not have been accomplished! True, the mere Voice perhaps would not suffice to stay the ravening hand, but the knowledge that, behind the Voice, there was a fifty-thousand-Doctor-power *Kick* would have a very decided inhibitive effect.

Just how the necessary Voice (and concomitant Kick) may best be developed, is what interests us particularly at this moment. Surely, we need both! Offhand, the easy going (and thinking) reader may be inclined to express the opinion that the Great American Doctor has *several* voices—that he is, if anything, oversupplied with journals which advance his views and defend his interests.

But, has he, really?

Are not most of the publications, supposedly "representing the Profession", *whispers,* not *basso profundo* Voices? Don't most of them, as a matter of fact, represent the interests or views of a rather small circle of individuals! Do any of them make any very intelligent attempt to secure the General opinion of working doctors throughout the country upon any subject to their interests germaine? Or dare they put up a *real* fight—knowing that they will be loyally backed by the great rank and file—if the necessity for *fight* arises? And it is well to bear in mind the fact that you get very little here below unless you *do* fight for it! Consider the question earnestly—honestly—and draw your own conclusion, as we have drawn ours.

Admitting that one, two, or even more, of the distinctly Medical journals now published do, in a way, represent the doctor and his interests, do they by any chance or in any way reach even a tithe of nonprofessional readers who get *their* ideas and form *their* judgments from the printed word sent out broadcast by opposing forces? To make our Voice (and Kick) effective, we must often present our case (save in distinctly intraprofessional matters) to the people at large. Therefore, it appears to us, that the Voice will have to be a virile, aggressive periodical with a large circulation among doctors, containing not alone really informative medical articles but carefully garnered and dependable News of every kind which is of real importance to the physician. It must maintain a "Stop! Look! LISTEN!" department, and sound the siren whenever it sees Comanches creeping up to attack. And, when it *does* sound the warning, it will behoove the men, whose Voice it is, to get busy and lubricate the kicking apparatus!

It might appear to be, but really is not a difficult matter in these days for an intelligently trained central VOICE to express, with bell-like clarity, the approval or disapproval of a hundred thousand individuals—*provided, of course, that they don't shout different tunes.*

Moreover, it appears to us that, at this particular time, it would be a simple matter to formulate "Articles of Faith" which could be loyally supported by a hundred thousand medical men in this country. More than that, perhaps. And each subscriber to those articles would also be a subscriber to the VOICE—and make himself heard through and by it. If such a VOICE once functions, it must ever be supported by the Kick, and in turn must itself be beyond the suspicion of uttering false or self-interested notes. It must indeed be a VOICE with an ear to hear, an eye to see, a heart to feel, a conscience to guide it, and a big right foot! Further, to make itself distinctly heard, the VOICE must reach beyond the mere professional ear and, to accomplish this, must discreetly and at the right time whisper through nonprofessional speaking-tubes and on occasion talk out very distinctly direct to the laity in general. The people are being "educated." Let us lift *our* VOICE and educate them a little further—and along desirable lines.

The more one thinks of it, the more, surely, he will be convinced that Doctor Candler has presented us with a perfectly good egg, and it seems to us that it would be distinctly advisable to see what we can hatch therefrom. We therefore shall welcome and earnestly ask for ideas and suggestions. Let us hear *your* VOICE please—Now.

An effort made for the happiness of others lifts us above ourselves.—Mrs. L. M. Child.

WHAT IS A SENSE OF HUMOR?

We frequently talk of the "Saving grace of a sense of humor" without, in most cases, paying heed to just what it means to possess this commodity. To be able to laugh at a joke, whether true or spurious, to enjoy somebody else's discomfiture (for instance, an old gentleman losing his tall hat or an old lady being snowballed by a bunch of young hoodlums on the street) is not humorous; it is not funny; it rather shows a perverted nature. To laugh at the alleged funnies on the last page or the last page but two (wherever they may be) in the daily newspapers, does not imply the possession of a sense of humor. It may be something entirely different that induces the cachinnation. A sense of humor, as we conceive it, is closely allied with an ineradicable optimism. It is a part of the ability to see the bright side of things, to be cheerful, as Mark Tapley has it, who took no credit for being cheerful under favorable circumstances and who almost wished that reverses might strike him so as to test his lasting possession of cheerfulness.

Nor is a sense of humor allied in any way to cynicism. We must confess that we haven't any use for cynicism or for the cynic. He appears to us as a very immature sort of a person, as somebody who not only has not learned the lessons of life but has absolutely failed to take them to heart; somebody who sneers at things that are dear to others, somebody who hides the active manifestations of his jealousy, of his sense of inferiority, under his cynical experiences.

Sterne declared that "it is not in the power of every one to taste humor, however he may wish it. It is the gift of God; and, a true feeler always brings half the entertainment along with him." We agree with E. P. Whipple, when he says that "humor implies a sure conception of the beautiful, the majestic, and the true, by whose light it surveys and shapes their opposites. It is a humane influence, softening with mirth the ragged inequalities of existence, prompting tolerant views of life, bridging over the spaces which separate the lofty from the lowly, the great from the humble." Carlyle is right in his assertion that "true humor springs not more from the head than from the heart; it is not contempt; its essence is love. It issues not in laughter, but in still smiles which lie far deeper. It it a sort of inverse sublimity, exalting, as it were, into our affections what is below us, while sublimity draws down into our affections what is above us." The essence of humor Carlyle conceives to be "sensibility; warm and tender fellow-feeling with all its forms of existence." For that reason, whenever you find humor, you find pathos close by its side. Somebody has said justly that humor always has tears close to it.

"Men of humor," according to Coleridge, "are always in some degree men of genius. Wits are rarely so, although a man of genius may, among other gifts, possess wit." Witty persons often are sharp, acrid in their characterizations of their fellow-men; true humorists are never unkind, even though they may be emphatic in their disapproval of what they conceive to be wrong. Socalled humorists, at least professional ones, those who manufacture jokes for the funny papers at so much per, are not necessarily endowed with a sense of humor. In fact, humor does not necessarily

imply the ability to make people laugh, no matter how useful that may be; for, it has been truly said that laughter is the most healthful exercise. It is one of the greatest helps to digestion, and the custom prevalent among our forefathers and at this time, of exciting it at table, by jesters and buffoons, was founded on true medical principles.

It is a sad fact that reformers, fanatics, people with one-track minds are sadly lacking in a sense of humor. If they were so fortunate as to see how excruciatingly funny they often appear to others, they would give up their reforming, their preaching, their intensive world-improvement. Saint Paul was hopelessly devoid of humor, but we imagine that John, whose message: "Little children, love ye one another" expresses so much, often smiled and even chuckled delightedly at some happenings, even though, just as often, the tears were nearer to him that the smiles.

Humor is never gross or crude, although we employ the term "gross humor" occasionally. We may laugh at both, "gross" (alleged) humor, or funnies, and true humor. Fatty Arbuckle's antics often made us roar until our sides ached; but they did not possess humor. On the other hand, Charlie Chaplin's gentle, seemingly spontaneous and unmeditated stunts impress us as being truly humorous; and the sad look that never leaves his eyes, the idealism that is manifest in every paragraph in his recent travel letters, show the close relationship of humor and sadness. We doubt whether Rabelais may be called a humorist, though his coarse, gross jests may incite riotous laughter; but we delight in the delicious humor of a Dickens, a Mark Twain, despite the fact that as often as not our chuckles of enjoyment are modified by attacks of rapid swallowing, by choky sensations, by little gulps as if to keep the tears from coming.

While a gift of humor is truly "needed in every household," we opine that people having much to do with others, or those in public or semipublic positions are lost without it. What do those unfortunate physicians do who can not smile, within themselves, at some of the awful cracks that their patients commit? What do ministers, school teachers and many others do if they are not so gifted as to find delight in some things that make others tear their hair out. You remember Myra Kelley? Truly, her task in one of those Lower East Side schools, with their mixed populations of Jewish, Irish, Negro people, not to mention a sprinkling of Syrians, Armenians, Chinese and others, was not an easy one. Instead of pining, she utilized the many experiences, harrowing and irritating though they must have been, for writing some of the most delightful, delicious stories that have ever come to our knowledge. But, we are wandering too far afield.

There is no doubt about it that the possession of a sense of humor is stimulating to a healthy mentality. Come to think of it, a mentality that is not healthy could not possess humor. Indeed, humor itself is incompatible with anything pathological. As we conceive it, one good test for the possession of this desirable gift is the ability to laugh heartily and joyfully even though the joke is on one's self, the willingness to tell a good story on one's self, the readiness to make the best of one's occasional stupidities and to accept the consequences gracefully.

A sense of humor is something that certainly no editor can afford to be without. There is hardly an issue of any publication which does not contain articles for the publication of which the editor is cussed out by some and applauded by others of his readers. Speaking for ourselves, we are in frequent receipt of letters from physicians (in good standing, mind you, and of undoubted qualifications) commending Clinical Medicine and praising its "differentness", its editorial policy, the variety of its subject matters, and so forth. For the good of our souls, we assume, these bouquets are counterbalanced by other letters such as one, for instance, in which we were told that the reading matter of Clinical Medicine is valueless for an up-to-date hospital man, or another one in which we were enjoined to take the articles published in Clinical Medicine out of the kindergarten class. In short, there is a sufficient number of cordial knocks to prevent our heads from reaching into the clouds and expanding, because of the boost that fortunately come usually in the same mails.

People, interviewers and others, who have come in contact with Mr. Coué, speak of the twinkle in his eyes. That proves to us that he is gifted and endowed with a sense of humor. If he were not, he could not possibly have been as successful in his dealings with the sick as he has been. We are far from suggesting that his greatest success is in the case of those people who have nothing the matter with them; indeed, to be cursed with periodical and chronic blues, to have acquired a gloomy outlook on life; to be persistently complaining and feeling badly, is the very reverse of humor and it requires a superabundance of it to overcome the complaints of such people and to talk them out of them. Not unlike Mr. Coué, as already

remarked, physicians find the possession of a sense of humor a wonderful asset. It enables them to bear up under their infliction. It makes it possible the better to cheer their patients and to help them to maintain a hopeful, courageous attitude of mind, despite illness. And that, in itself, is a vital factor in prognosis—especially in mental and physical ailments.

The very society of joy redoubles it; so that, whilst it lights upon my friend it rebounds upon myself, and the brighter his candle burns the more easily will it light mine.—South.

DEFAMATION IS NOT CRITICISM

Since the days of ancient Babylon and Egypt, physicians have been the butt of more or less clever jokes and, often, of stupid vituperation. When the writer of the Book of Chronicles recorded the account of Asa (XVI, 12, 13) who fell ill and called the physicians and—slept with his fathers, we imagine that he chuckled as he leaned back in his desk chair and remarked to his steno: "There, I guess that will hold those plaguey sawbones for awhile."

The Elder Pliny, we are informed, was bitter in his disapprobation of physicians who, to be sure, in his day, were mostly slaves or, at best, freedmen. Through all the Middle Ages, physicians suffered cruelly from the disregard in which they were held as a class, usually because of the illegal practices of charlatans and other irregular practitioners for which the whole fraternity was held responsible.

It is a pleasing variety to read, in Montaigne's "Essays" a more kindly criticism of physicians and to see that he fully realized the difficulties which they had to contend with. Less charitable was Molière who held our profession up to ridicule that was, often, unmerited and gratuitous.

Not but what it must be admitted that the practices of olden times were open to serious disapproval and blame—judging them by the *standards of our time.* However, it is a serious error to judge customs, habits and acts of any periods by any other standard than the one of that particular period.

Whatever the shortcomings of physicians may have been and may be, it can not be denied that they always are actuated by the honest desire to do good, to help the sick, to relieve suffering and to restore health. Methods may have been and may still be mistaken. Many of them are, no doubt. Still, in every walk of life, errors are committed and one may not lose sight of the fact that physicians are not supermen, that they are but men, subject to all human errors and failings.

Garrison ("History of Medicine") says that the history of the advancement of medical science is the history of the discovery of a number of important fundamental principles leading to new views of disease, to the invention of new instruments, procedures, and devices, and to the formulation of public hygienic laws, all converging to the great ideal of preventive or social medicine; and this was accomplished by the arduous labor of a few devoted workers in science." . . . "History teaches everywhere that permanent ignorance and superstition are the result of the oppression of mankind by fanatical overmen. In medicine, this is sometimes ludicrously true."

There is no doubt about it that the scoldings, the aspersions, the vindictive vituperation heaped upon those attempting to contribute to the progress and development of medical sciences have hindered such advancement materially. In the first third of the last century, Jacob Henle expressed, in his essay "On Miasms and Contagia" the first clear statement of the idea of a *contagium animatum.* It was not until thirty years later that this idea was developed by Pasteur, by Koch and then by others. Semmelweis and also Oliver Wendell Holmes insisted upon the contagious origin of puerperal fever. Both met with the violent opposition of the professors, the "keepers of the temple." Virchow's implied and expressed antagonism delayed the development of immunology as a logical consequence of bacteriologic study for years. It has always been true that innovations, new discoveries, progressive measures were opposed most fiercely by those in authority and in power and that progress has been made in spite of the leaders, not because of them.

If unjust adverse criticism hurts and does harm when it comes from those of one's own profession who ought to have an open mind and whose knowledge, one might think, should enable them to realize what is promising in the new, such criticism becomes all the more objectionable when it is offered by one who is not a physician and who has no knowledge of the difficulties, the trials, the honest attempts and efforts that are constantly made. For an outsider of that kind, to rail at physicians as a class and accuse them of being fools, ignorant, careless, callous, solely actuated by the sordid desire for gain, leaves an exceedingly unpleasant taste in one's mouth. One is affronted and disgusted, as though by something unclean, by invective that is dictated by a small mind,

envious or, worse, a deliberately slanderous mentality.

When we reviewed Paul DeKruif's book entitled "Our Medicine Men," in CLINICAL MEDICINE for December (p. 780), we had not read his article in the December issue of *Hearst's International,* entitled "Vaccines for Broken Legs" which is No. 4 of his series on "Doctors and Drug Mongers." In keeping with our custom, we expressed our appreciation of that for which there was a basis of truth. It would be futile to deny that there is nothing to be criticized, nothing to be improved in the practices and methods of physicians. Physicians are the first to realize this fact and, as a class, take kindly, sometimes perhaps too eagerly, to suggestions promising improvement. However, we confess that, had we then read this vaccine thing, our approval of the assertions made by our bitter antagonist would not have been so sincere; it would have been qualified by some forcible objections.

Doctor DeKruif amuses himself, railing at the "gullibility" of physicians in the matter of employing bacterial vaccines, even as he has sputtered before, in a manner that necessarily aroused ridicule, against the employment of many drugs. In speaking of bacterial vaccines, it might be supposed, at first sight, that DeKruif does not base his reasoning on hearsay evidence as he did in those other articles, but that, being a bacteriologist, he might have some first-hand information to go by. Unfortunately, this is evidently not the case. It has been brought home to us convincingly that, to be a bacteriologist, does by no means mean to be an immunizator. No matter how versed one may be in bacteriology, that does not entitle one to speak authoritatively concerning the reaction of the organism to the invasion of bacteria or to the introduction of bacterial substances.

Doctor DeKruif weakens any force that his arguments might possess by being guilty of serious contradictions. He admits that the proper use of vaccines ("especially in the prevention of certain diseases") is one of the most notable of the triumphs of modern medicine. Yet, he virtually wishes to deprive physicians of the right to use these remedies, alleging that they are too ignorant, too stupid even, to learn proper methods. He says that, "it is justifiable to place such things (namely, preparations which, when used without the highest skill, are dangerous to human life) in the hands of highly-trained intelligent doctors. Their . . . indiscriminate sale to *all* doctors demands the attention of the public and the medical profession alike." DeKruif indulges in personalities and pours out the vials of his wrath especially upon Doctor Sherman and upon Parke, Davis and Company as "vaccine venders" for whom, in his opinion, drawing, quartering and burning at the stake would not be enough. His immoderate and clearly ill-founded accusations fortunately serve to destroy the effect of his arraignment, to the intelligent readers, to those who think. *Un*fortunately, this series of articles evidently caters to the unthinking, to those who are most prone to listen to plausible, vociferous and, from choice, to defamatory accusations.

By the way, we wonder if DeKruif and his kind realize the immeasurable harm that they do to the *dear people* in whose behalf (supposedly) they have taken up the cudgels. Do they understand that, in times of stress, in periods of serious epidemics, of accidents, of dangerous disease, physicians are necessarily called upon for assistance and that it is brutally unkind, indeed, criminal, to destroy deliberately and with evident malice the faith of people in the ability and even in the honesty of medical practitioners? It is a serious thing to imply that the one hundred and fifty thousand (about) physicians in this country are fools, if not worse! It requires a great deal of assurance to pillory and to castigate so many people who belong to one of the learned professions, whose general and special education is usually above that of the average and whose good faith can not be questioned without offering an unmerited and unpardonable insult.

We spoke of DeKruif's personal attack upon Doctor Sherman. This attack, by implication, affects The Hygienic Laboratory, at Washington, which has issued a license to produce and market bacterial vaccines to Doctor Sherman, on the basis of a careful inspection of his laboratory facilities, and exercises continued control of his products. True, The Hygienic Laboratory does not guarantee these biological preparations to be, or to accomplish, what is claimed for them. It only declares that the preparations are made properly and that they are free from injurious contaminations. Nevertheless, the fact that The Hygienic Laboratory permits the production and sale of bacterial vaccines should make any one hesitate to condemn these remedies in such unmeasured terms as has been done.

To limit the right to employ bacterial vaccines to physicians "of the highest skill, highly-trained and intelligent" would, if carried to its logical sequence, make it necessary to forbid the administration of drugs like strychnine,

aconitine, digitalin, atropine and numerous other potent remedies by any but "highly-trained and intelligent doctors." Besides, who shall say who are to be classed in this manner? As a matter of fact, DeKruif would be surprised to find how numerous are the Weelum MacLures in the country, at the cross-roads, in the mountains, in the backwoods generally. He would be astonished on finding how competent, how observing and how capable of acting upon the results of their observations are these men who have to fight lonely battles against disease and death. In truth, the less-well qualified physician is more likely to be found in the shadow of the hospital and of the clinic (we do not say, *in* the hospital and *in* the clinic, but in their shadow) because, to them, it is made too easy to get help and information.

It would be futile to make our talk even dryer than it is, by taking up the various contradictions and inaccuracies that are found in DeKruif's article on "vaccines for broken legs." We submit that his methods are objectionable and that his remarks are largely incorrect. Nevertheless, one or two points may be made. DeKruif condemns, almost without qualification, stock vaccines in favor of autogenous bacterins, on the strength of some unsupported assertion that the latter are more "scientific" and, therefore, necessarily must be better. It has always seemed to us that the employment of autogenous bacterins is less scientific. They include strains of germs which have become habituated to the resistive efforts of the organism in which they manifest their particular damage. If these resisting defensive efforts were sufficient, bacterial disease could not have occurred. To attempt a stimulation by "a little of the same, please," seems futile. It surely is far more sensible and more truly scientific to utilize different strains of the same germs, in order to stimulate the more certainly the immunizing forces of the sick organism.

When DeKruif ridicules Sherman's list of bacterial vaccines and his list of diseases in which these may be employed, he intimates that the remedies are offered as the sole and exclusive treatment for diseases. Practitioners of medicine are well aware of the fact that a bacterial vaccine can form only one phase of the treatment and realize the necessity of utilizing, stimulating and increasing the body's defensive powers by efforts tending to promote nutrition, encourage elimination; the need of adopting hygienic precautions, in short, of making use of all measures that can contribute to a favorable progress and termination of the disease.

The habit of numbering remedies that may be used in the treatment of (not, *for,*) certain diseases, is a very common one. We remember, years ago, when in the out-patients' service in the Massachusetts General Hospital, that some formulas and prescriptions were habitually ordered by number. We believe that even today numerous hospitals have such numbered prescriptions or at least formulas known by readily understood abbreviations. It would be silly to accuse these institutions or the attending physicians of treating diseases by numbered prescriptions. Let Doctor DeKruif remember that physicians do not treat diseases; they treat the patients who are subject to disease. They have definite ideas what the various remedies employed can do and what they do accomplish.

Whether the administration of bacterial vaccines, when done "without the highest skill," is dangerous to human life is yet to be proved. It may be said in isolated instances that, in the past, serious injury has been done by such biologic preparations as the old tuberculin, as it was administered soon after its first introducion. However, tuberculin can not properly be designated as a vaccine; it is much rather a powerful toxin. As a matter of fact, bacterial vaccines, as they are prepared today, and properly administered, do not do the harm that their opponents picture in horrible colors. It is to be said, moreover, that very few physicians who have employed bacterial vaccines in actual practice, *lege artis,* are opposed to the method. The criticisms, the condemnations originate with academicians, with laboratory workers, with theorists or, at most, with clinicians who have *no practical, clinical knowledge* of these remedies.

It is fortunate for Doctor Sherman that, after all, he has no kick coming for having been singled out so sharply from among all the other makers of bacterial vaccines in this country. He was taken as representing a group and, really, DeKruif paid him a compliment in distinguishing him in that manner. We hope that Doctor Sherman's innate sense of humor will convince him of the correctness of our opinion and let him feel properly gratified.

DeKruif concludes his remarkable production with these words:

"If the profession does not wash its own dirty linen, the disagreeable duty will have to be done by others. That is the principal purpose of this series. If the doctors insist on being fooled, *some* power will have to arise that will make it harder for them to be fooled." [Dr. Paul DeKruif is evidently quite willing to be "some power" and to do "the disagreeable duty". We are grateful for his disinterested help.—Ed.] . . . . . .

and so on. Really, one might think that De-Kruif had morons and worse to deal with; that he was entering (quite disinterestedly! oh, quite!) upon this crusade very much against his will; that it hurts him far worse to scold the doctors than it hurts them. It does *not* hurt them; very much. But, it will do great harm to the people who are foolish enough to be influenced by these vaporings.

After all, the medical profession has always managed to wash its dirty linen quite *en famile*, as is proper. It has been grateful, at times, to outsiders for having pointed out certain spots in its cloak that were not apparent to its own optics. You can not see your own back, you know. However, if "others" are to be delegated as washer-women, it may be well to make a careful selection and to make sure that the appointed cleanser be properly qualified, himself free from blame, capable and learned, and that he have accomplished at least some remarkable results that would entitle him to speak as one in authority. Moreover, cheap clap-trap is not convincing. Honest criticism does not require mud-slinging. Moderation in all things, even in language, is a mighty good thing to acquire.

The intelligent have a right over the ignorant; namely, the right of instructing them.—Emerson.

NOTHING FOR NOTHING

During the recent holidays, we read a splendid newspaper editorial in which the writer discanted upon the truism that nothing ever was given, bestowed, granted for nothing. There is always a consideration, a reciprocity, a *quid pro quo;* even if this return may take the form of only gratitude, good will and other imponderable modes of appreciation. Basing his remarks upon this ratiocination, the writer expressed his surprise at the Christmas message announced by the angels (according to St. Luke, Chap. II, Verse 14), "Glory to God in the highest and on earth peace, good will toward men". This, be it remarked, is not in keeping with religious tenets, for, even salvation is not free but must be purchased with faith. On going back to older manuscripts than those upon which the St. James' version of the Bible is based, it was found that the original reading is, "Glory to God in the highest and on earth peace *to men who are of good will". ("Gloria Deo in excelsis et in terra pax hominibus bonæ voluntatis.")* The good will is a condition in consideration of which peace is promised.

The editor need not have searched very far to find this older and more correct reading. He could have found it in any Catholic prayer book, or in the text of any mass. The text of the "Gloria" contains, we believe, the words as they are found in the "Vulgata".

When we look around, we find that the principle of reciprocity holds true all through life. Peace has not been restored because the nations do not entertain good will for each other but rather try to get the best, one of the other. The victors attempt to crush into the dust the vanquished, even to economic ruin and extermination. They do not seem to take heed or to realize that, if they were to succeed, they would themselves be the losers. In our daily life, not only among our business friends in our gainful transactions does the same principle hold true, but even among friends and in family life. The remuneration, the return for benefits received, for support, education, and so forth, take the form of affection, love, helpfulness; in short, of "good will". Any advantages that are bestowed without such a "comeback" are given grudgingly and thereby lose their value.

It is a great gospel, the message of good will, and it becomes even greater if it is realized that it is not, that good will is promised, but the good will is a condition through which peace on earth is earned and merited; that is to say, happiness, success, comfort, and other benefits.

CHILBLAINS

Erythema pernio is one of those "unimportant" minor affections that are apt to drive their victims to distraction and, yet, are seemingly so slight (since there are no alarming symptoms connected with them) as to cause no fear or apprehension. Nevertheless, the unfortunate possessor of chilblains is decidedly handicapped and interfered with in that pursuit of happiness which is guaranteed to him by the Constitution, and its relief should be just as great a matter of concern to the physician as may be that of pruritus, of headache, toothache and other "casual" affections.

Both, internists and dermatologists, agree in pointing out that chilblains is prone to occur in persons whose circulation is poor and constitution feeble. Dermatologists lay greater stress on the poor peripheral circulation, but internists know that robust, vigorous persons are not very likely to be affected by erythema pernio or at least only very temporarily.

It follows, as a matter of course, that the first consideration in treating chilblains, after

the relief of the distressful itching and pain, is close attention to improving the general health and nutrition and taking care of suitable elimination, so as to prevent or remedy autointoxication. Savill suggests the administration of iron and strychnine. Gaucher says that "in lymphatic subjects, tonic treatment is indicated—codliver oil, iron, iodo-tannic syrup". Hazen insists that "the hygiene must be carefully looked after and the attempt made to tone up the circulation. He does not, however, suggest any particular remedy.

We have found nucleinated phosphates very useful and also the triple arsenates (strychnine, quinine, iron) with nuclein solution. The iron might usefully be introduced intramuscularly (iron cacodylate, sodium cacodylate with nuclein solution, or iron citrate, sodium arsenate, strychnine sulphate, with nuclein solution). The intramuscular injections are preferable, for the reason that the effect is far more prompt in being manifest, and time is, of course, a consideration.

In addition to efficient elimination, any existing autointoxication of intestinal origin should be overcome by the administration of such drugs as the sulphocarbolates of calcium and sodium, or echinacoid.

For local treatment, a great many remedies have been recommended. The selection will be guided very largely by the nature of the lesion. If there is a simple erythema with its attending itching, stimulating lotions will be sufficient. If the epidermis has been destroyed and the parts have become ulcerated, applications of hot chlorazene solution have been found effective. Hot foot-baths followed by alcohol rubs or witch-hazel applications may assist in stimulating the peripheral circulation. The foot wear should be comfortable and warm. The shoes should fit well and be roomy enough so as not to pinch the feet or ankles and thus impede the circulation.

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.—Johnson.

A MEDICAL ADVANCE

One of the Philadelphia daily papers, a few weeks ago, printed the following editorial.

"A court decree setting up the Research Institute of Cutaneous Medicine in the place of the Dermatological Research Institute gives legal form and standing to an ideal which does honor to the medical profession in Philadelphia.

"The new institution is made possible by the sale of laboratories, real estate and equipment of a commercial enterprise and the pledging, in addition, of half a million in securities which the laboratories had earned.

"The ideal which bears fruit in the establishment of the new institute is that which forbids physicians to make money from their discoveries in the field of medical research. Three Philadelphia scientists, Dr. Jay F. Schamberg, Dr. John A. Kolmer and Dr. George W. Raiziss, invented a substitute for a German medical preparation during the war which the Government and others bought in huge quantities. Their preparation was a blessing in itself, as leading medical authorities bore testimony. Though none of the three could be rated as a rich man, they refused to touch the fortune piled up by their efforts.

"It goes now, in perpetuity, to the investigation of obscure skin diseases, minor scourges of mankind, which, because they are not acute, have not been conquered.

"This is the sort of devotion to an ideal, expressing itself in deeds rather than words, which has made Philadelphia one of the country's first medical centers."

—

This editorial refers to the laboratory of the Dermatological Research Institute which was recently purchased by The Abbott Laboratories, of Chicago, for the commercial production and distribution of the arsphenamine preparations. In this manner, the founders and early promoters of the Dermatological Research Institute gain leisure to continue their scientific investigations which they are carrying on for the love of the work and without the desire for gainful exploitation.

The editorial justly appreciates the devotion to an ideal, expressing itself in deeds rather than in words, and which is observed constantly among physicians. There are some men so constituted that they prefer the searching after truth, the discovery of means that shall help the sick and the ailing and who do not care for the commercial possibilities of their results or for their possible financial returns. There is a reward for that sort of thing that can not be expressed in dollars and cents but which yet is preferred by some men. It is not so much the fame attaching to important discoveries or results. It is the joy, not of acquisition but of success. It is the knowledge of having accomplished something for the good of one's fellowmen.

True, the complemental corollary is necessary, too. Results of useful investigations must be produced and marketed. They must be "exploited commercially", if this somewhat objectionable expression be permissible. However, that may be left to those who are temperamentally fit for it; and who shall say that they gain more than those—idealists, disinterested students (whatever you want to call them) who find their greatest reward in mak-

ing possible the production of useful remedies but without demanding or desiring lucre.

It seems somehow that conflict is necessary for the perfection of character. I know that, in navigating our coast today, I feel twice as reliable a pilot for the bad times I had on so many rocks. —Wilfred T. Grenfell.

CARELESS SPEAKING AND WRITING

George Eliot informs us, in "Middlemarch", that Doctor Lydgate "cared not only for 'cases' but for John and Elizabeth, especially Elizabeth". We wonder whether Mrs. Lewes fully realized the extent of the truth that she expressed in this terse sentence. While the layman will tell you that he or his brother or sister "had a severe *case* of such and such a disease", and differentiates between the person having the "case" and the case, or instance, of disease itself, physicians all too frequently speak indiscriminately of cases and of patients; relating, for instance, that the "case" got worse, or died, or improved—which is a shoddy mode of expression.

Here we have just one instance of careless diction in which we indulge altogether too much. Such carelessness is rampant, especially in the matter of technical terms. For instance, the title of a paper appearing in one of the best medical journals published in this country deals with the "vegetative neurologists". Ye gods and little fishes! Does the author mean a neurologist who is vegetative (or vegetating?) or does he mean a neurologist devoting particular attention to diseases of the vegetative nervous system? If he means the latter, why in time doesn't he say so? In papers and also in discussion for medical societies, one frequently hears the expression, tuberculous or (even worse) tubercular specialists. Strangely enough, men who are guilty of such an atrocious misappelation never speak of "syphilitic" or "cancerous" specialists. And, yet, why shouldn't they? If a physician were to limit his practice to treating patients affected with measles, would he be a "measley" specialist?

The workman who does not take care of his tools is not a good workman. Words, expressions, technical terms, are part of our tools. They should be kept in good condition and, above all, they should be correct.

Incidentally, a little matter of form. We often wonder why it is that so many people who, otherwise, write a perfectly legible hand, have accustomed themselves to a signature that the most careful steno or the most experienced bank clerk could not decipher. Surely, in the matter of signature, one should be fully as careful as in the writing of a letter. The idea is, we presume, that illegible signatures are less easily forged. As a matter of fact, bank clerks will tell you that this is not the case at all. A simple legible signature is far more difficult to imitate than is one of those fancy scrawls that nobody can decipher.

During the war, the government services introduced the splendid custom of causing the name of the writer to be typewritten at the bottom of each communication. Above it, the signature is placed. This custom has been adopted by a great many concerns and individuals, including ourselves. Many of our correspondents employ it. Those who do not, and who write their letters with pen and ink, we implore to write legibly and to sign their names clearly, especially if they do not use printed stationery.

While we are on the subject: when writing for publication, it is well to employ simple diction and construction. Involved sentences, that must be read two and three times before the sense is made out, do not impress their message nearly as forcibly as do simple, brief, terse phrases. The padding of the text with "high-faluting", esthetic, ethereal vaporings does not improve or enhance the lesson; it does not make it more impressive. "Let your communication be, yea yea, nay nay. More cometh of evil." Simple, unaffected language is far more impressive than are flowery, hyperbolic expressions.

Besides, simple, terse sentences require exact thought; the more involved, decorative sentences may be employed to express immature or inexact ideas. But, the dispassionate, clear and sharp thinker will easily discover the pretense and will fail to be impressed by the affectation. Inexact writing and inexact speech make one suspect the writer or the speaker of careless thinking and reasoning.

While it is not always feasible to employ the typewriter, though many physicians possess such a useful tool, the typewritten manuscript is to be preferred to the pen-written one.

[*Concluded on page 139.*]

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Leading Articles

Revised Bedside Directions for the Treatment of the Acute Pneumococcus Pneumonias

With a Prefatory Comment on the "Definite" and Other Plans of Treatment

By SOLOMON SOLIS COHEN, M.D., Philadelphia, Pennsylvania

EDITORIAL COMMENT.—We are happy to present, in the following, a revised version of Professor Solomon Solis Cohen's bedside instructions for the treatment of pneumonia patients, which originally appeared in this journal for February, 1917, p. 101. A comparison of the two articles will show no essential differences in treatment, since the principle underlying the therapeutic measures remain the same. More recent investigations, however, and further clinical experiences have made it possible for Doctor Cohen to elaborate a method of treatment that is not only almost fool-proof, as he suggests, but also gives the most favorable results, we believe, that have been observed under any method of treatment. His mortality rates are remarkably low. This, of course, depends upon the care, the never-failing watchful acting and the deliberate and courageous employment of those drugs that have been found useful. The method shows the incorrectness of those statements, that we occasionally hear, to the effect that no treatment of any kind can alter the course of acute lobar pneumonia.

Prefatory Comment

UNDER the *laissez faire* methods of therapeutic nihilism, the acute pneumonias have, for more than a quarter of a century, usurped the malign eminence of tuberculosis and typhoid fever at the head of mortality statistics in the temperate zone.

Immunology has indeed given increasing promise of betterment within recent years, but its methods are as yet imperfect and in course of development. They cannot, at present, be used in the best way, outside of hospitals. Chemotherapy of some kind—for, all administration of drugs is chemotherapy—continues to be the main dependence of the physician who is unwilling to trust to chance in the grave situation presented, actually or potentially, by every pneumonia patient. The only question is, shall our chemotherapy be a vague, uncertain, shifting maze of temporary expedients, or shall it be precise, clear, definite?

Five years ago, the writer published, in THE AMERICAN JOURNAL OF CLINICAL MEDICINE (February, 1917), a summary of "Bedside Directions for the treatment of Acute Lobar Pneumonia" embodying a brief outline of the chemotherapeutic and other measures that his experience of thirty years had "tried and proved good." He termed them, in the aggregate, "The Definite Plan"—because this plan employs *definite agents* for *definite purposes*, and upon *definite indications*. (See *N. Y. Med. Jour.*, 1916, Jan. 3 and 10, and *Jour. Amer. Med. Ass'n.*, Dec. 6, 1919, p. 1741.)

Since then, enlarged laboratory studies (see *Penna. Med. Jour.* May, 1919, vol. xxii, page 506) have confirmed the conclusions reached by clinical observation; and the results given by the definite treatment in two severe epidemics—especially in that of 1918, with all its complications—have increased the author's confidence therein.

It is not the final word on the subject, nor is it put forward as even the penultimate syllable. Advances in immunologic methods may yet give us available specifics, potent against all types of pneumococci, against Friedländer's bacillus, against the various strains of streptococci and other organisms

that we have to combat in the group of maladies we term the pneumonias. Advances in chemotherapy may give us better molecules developed from the "quinine lead" against the pneumococcus, a molecule developed perhaps from the "antimony lead" perhaps from the "phenol lead" against Friedländer's bacillus; and the sorely needed chemical specific—perhaps an organic mercurial or a dye—against streptococcus hemolyticus. As yet, however, a clearly specific serum is available only in cases of Type-I pneumococcus infection; and while various bacterins, sero-bacterins and other immunologic products—among which Huntoon's solution of antibodies seems worthy of special mention—have been employed with marked benefit, the gross results of immunology are, at their best, no better than the best of those observed under the definite plan; while its methods are as yet less readily carried out in private practice, and its remedies frequently difficult to obtain.

It is probable, as the author long ago pointed out, that the very best results are to be looked for from a *combination of immunotherapy and chemotherapy;* both improved somewhat from present methods, but, insofar as pneumococcus infections are concerned, with Huntoon's antibodies and the cinchona derivatives as leads. From the latter, however, optochin is to be excluded, as being too toxic for systemic administration, notwithstanding the fact that it is far and away the best pneumococcus destroyer we have for *local* application.

Moreover, while our general plan (strategy) may be predetermined and fairly uniform, our particular methods (tactics) must always be flexible; always susceptible, not only to improvement by the advances in science, but also to modifications necessitated by the conditions presented, at the given time, by the individual patient.

Premising, therefore, that the measures here to be outlined are to be supplemented and modified by whatever useful measures and whatever knowledge the progress of science or the observation of the individual physician may give, it has seemed advisable at this time to offer again for the consideration of practising physicians, in the rural as well as in the urban districts, a brief presentation of the "Definite Plan" in the form of a revision of the "Bedside Directions," embodying certain tactical modifications that more recent experience has shown to be of service. Especial attention is to be called to the great superiority of quinine dihydrobromide over the quinine compounds formerly used. This is based upon the experimental observations referred to.

While stated in terms of hospital work, it is a simple matter to adapt to the home the measures described.

It should not be any more difficult in a farmhouse or village home for a member of the patient's family to keep a graphic chart of temperature, pulse, respiration, and even blood pressure, than for a trained nurse to do so in a city mansion. Its keeping will be found to simplify—not complicate—the work of the person in charge of the sickroom, and it will very greatly lighten the work of the physician. Any good form of chart will answer. The author's "complete clinical chart" (from which, by the bye, he derives no royalty) is sold very cheaply by the Hospital Standard Publishing Company of Baltimore and, while believed to be a good chart in all sorts of cases, it was designed especially for use in guiding the definite treatment of pneumonia. (Fig. 1). It shows at a glance the four cardinal points by which the definite indications are given—namely (1) *temperature;* (2), *blood pressure;* (3), *pulse,* and (4), *respiration,* and especially the relations *between pulse rate and systolic pressure,* and between *respiration rate and diastolic pressure,* which are so highly important. (Fig. 2). It likewise allows one to see instantly just what medicine has been given; when; how much; with what results. [See pp. 95 and 96.]

In the definite treatment of the pneumonias, *time* is, as the lawyers say, *of the essence of the contract.* If the treatment be instituted within the first 24 hours of recognizable disease—and boldly carried out—the mortality in patients under fifty and not debilitated by previous or existing disease (especially renal affections) is so small that one hesitates to state it, lest he be considered inaccurate or reckless—a candidate, in short, for the Ananias Club. Even in older patients, when treatment is begun early, the mortality remains very low. In young and robust patients, delays are less serious. Taken all in all, good cases, bad ones, early ones and late ones, the mortality (if we exclude hospitals wherein the victims of destitution, neglect and debauchery form the bulk of the patients—or rather, if we exclude such cases) should not exceed 16 percent. Under favorable conditions, it should not exceed 8 percent. Under the best conditions, it should not exceed 5 percent.

While *quinine* is the foundation of the treatment, it is not the sole feature—except in cases seen very early. In these, a single, large dose—by mouth, muscle, or vein, as most practicable, but *preferably by vein*—seems to cut short the

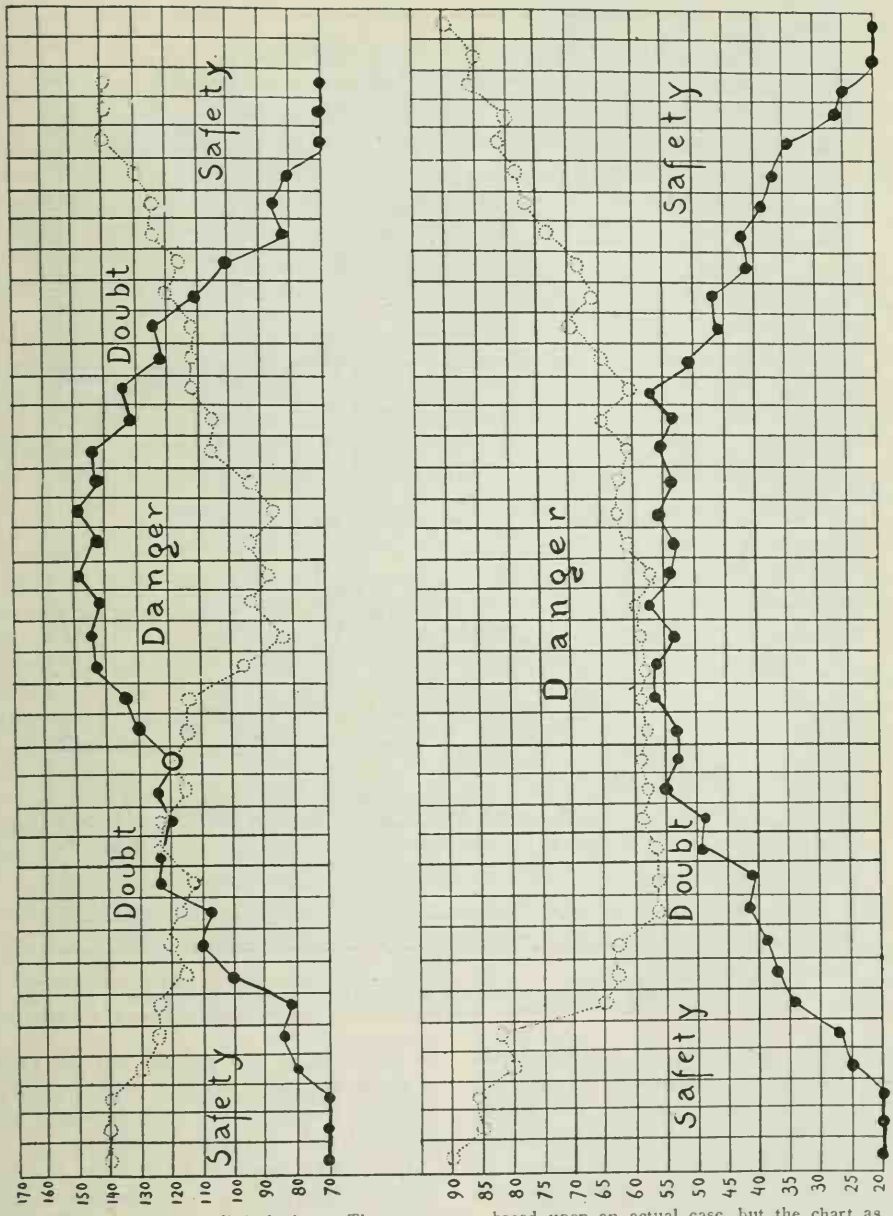

Fig. 1—Complete clinical chart: The curves are based upon an actual case, but the chart as given is partly diagrammatic in order to bring out the various points mentioned; that is to say, all the therapeutic measures recorded for illustration were not employed in this particular case. The curves of systolic and diastolic blood pressure are best recorded in red, with open circles joined by dotted line for one, and solid circles or dots, joined by solid or broken line, for the other. In the illustration, however, dotted black lines with open circles are used for both pressure curves, for typographical reasons. Letters may be used instead of asterisk and other symbols to indicate medication. P-D-Q answer very well. The P. goes in the pulse space; the D. in the respiration space; the Q. in the temperature space.

toxemia, while not affecting the structural changes in the lung. The latter run their regular course—or, sometimes, a delayed course—to resolution. But, the patient does not feel ill. Pulse, temperature, respiration become and remain normal. There is no cough, no discomfort. No critical phenomena are observed.

While, as stated, the morbid process in the lung persists, it does not, however, extend; and that is a gain that can not be too highly estimated. Frequently, under expectant treatment, one area of infection clears up, and the patient seems on the high road to recovery—when another patch of consolidation appears,

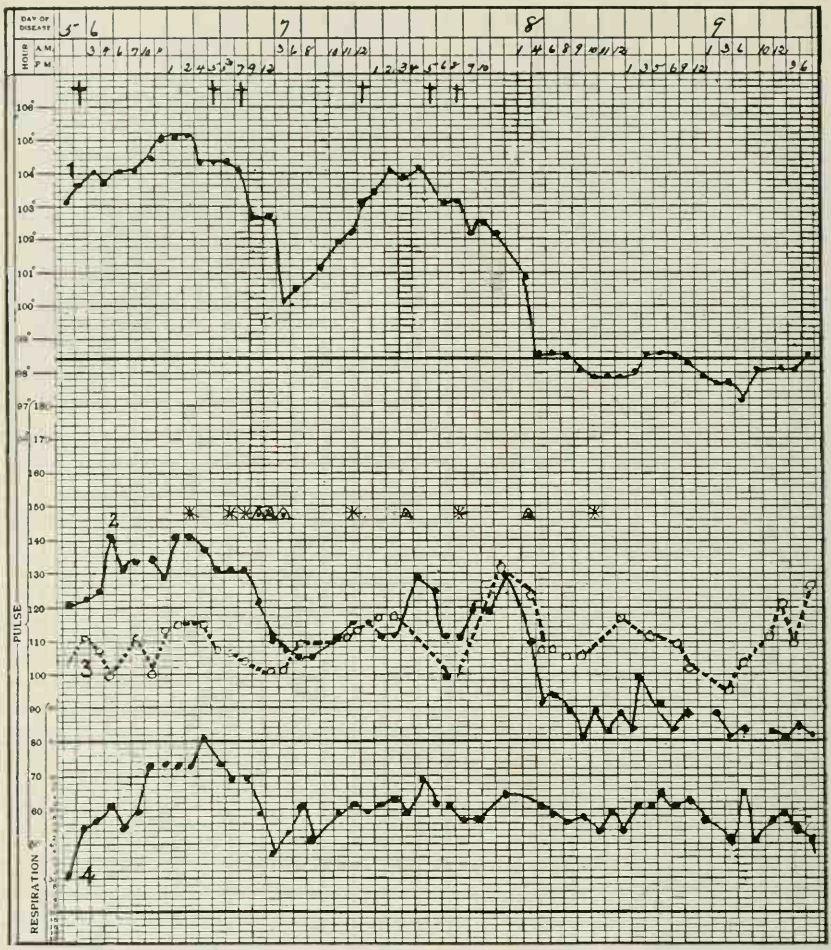

Fig. 2—Diagram showing Gibson's *(systolic)* pressure-pulse ratio and its significance (upper chart); and author's *(diastolic)* pressure-respiration ratio and its significance (lower chart). The Gibson phenomenon guides the use of *Pituitrin*. The author's phenomenon guides the use of *Digitalis*.

new poisons are generated and distributed—the patient becomes much worse, and may die. By the *early and bold use of quinine,* this mishap may be prevented. When the use of quinine is delayed or the drug is used in what S. D. Gross called "piddling doses"—the good result described is, of course, not to be expected.

When the patient is not seen sufficiently early to depend upon the single dose of quinine, *digitalis* and *posterior-pituitary solution* also come into play.

The latter sustains systolic blood pressure. The former sustains the heart and the diastolic pressure.

Let attention be called to three facts:

1.—*Pneumococcus infection* gives rise to *poisons*—some of bacterial origin, some of tissue origin—that *depress greatly the heart and vasomotor system.*

2.—*Quinine given in large doses* to persons in health or to sick persons *not the subjects of pneumococcus* or *malarial infection* and concomitant poisoning, depresses to slight extent the heart and the vasomotor system.

3.—*Quinine given in large doses to persons who are depressed by the pneumococcus toxins and the pneumonia tissue poisons will not depress;* it overcomes the poisons of disease and is itself overcome in so doing. In other words, *one poison neutralizes the other;* the depression of disease is ameliorated; the potential depression of the drug is not manifested. Through what mechanism this result is brought about, has not yet been learned—but the fact is evident. One proof of it is the *absence of all symptoms of cinchonism* even in persons having a "quinine idiosyncrasy".

This applies, let it be repeated, to *pneumococcus infections only*—whether lobar or lobular—and not to infections with streptococci or

with Friedländer's bacillus. In mixed infections, it still applies to the pneumococcus and tissue poisons, but not to the rest of the morbid complexus.

As to *possible untoward effects of quinine* other than cardiovascular, the writer has seen *temporary deafness* when the doses were too large or too long continued; or in desperate cases when extraordinary dosage was necessary. He has never seen permanent deafness produced by quinine in pneumococcus infections.

He has never seen even *temporary amblyopia,* but some instances have been reported to him. A case of permanent blindness attributed to the use of quinine in pneumonia, proved upon investigation to have occurred in a case of lobular pneumonia due to Friedländer's bacillus; it had followed persistence in the use of the drug for seven days, despite the absence of any effect on temperature. The patient recovered, and possibly his life was saved at the expense of his sight. It is to be remembered, too, that vision does not persist in the grave. Quinine, however, is not specifically urged in "Friedländer's cases." It may be helpful; but further investigation is needed to give it a definite status in this respect.

Temperature has been mentioned. It should be made clear that *quinine is not given as an antipyretic;* the lowering of temperature is *incidental to its antitoxic action.* Thus, the degree and completeness of the antitoxic effect is conveniently *measured* by the fall of temperature. It is an index.

In his earlier publications, the writer fixed 102° F. as the point to be reached and maintained; later, he reduced this to 100° F. He now thinks it safe to bring the temperature *down to normal* as early as possible.

So long as there is *no tinnitus* and *no visual disturbance,* quinine may safely be pushed while the temperature remains above normal; provided it has not, after three doses, failed to produce any effect upon temperature at all. Caution, however, is wise. Ringing in the ears commonly occurs before the eye is damaged by quinine. Hence, this should be a signal to withdraw the drug. It would indicate that an *excess above the amount needed to neutralize the pneumonia poisons* has been administered. It is, however, rarely met with when the writer's routine is followed.

Should the quinine *not affect the temperature* after three sufficient doses have been given, it may be inferred, either (1) that pneumococcus infection is absent, (2) that some other than pneumococcus infection is predominant, or (3) that we are dealing with a certain highly virulent strain, either of Type-III or of Group IV. (Typing, of course, may confirm or fail to confirm the inferences.)

Under the conditions mentioned, the drug may be withdrawn, or the possibility of recovery being attended with blindness, remote though it be, should be realized. As a rule, neither blindness nor recovery occurs in such instances.

Digitalis is given from the first in small doses (the equivalent of 5 minims of a good tincture, thrice daily) merely to sensitize the heart, so that it may respond quickly to larger doses, should an emergency arise. Meanwhile, it works no harm and possibly does some slight good. This dose, however, is much too small when positive digitalis effects are required. The indication for these is a fall of *diastolic blood pressure* to or below 60 mm. Hg. or an approach of diastolic blood pressure and respiration frequency curves, measured on the same vertical, to within 10 points of one another. Full doses by intramuscular or intravenous infection, are then needed.

Posterior pituitary preparation is indicated:

1.—To *raise* the curve of *systolic blood pressure* in mm. Hg. to a point *above,* and if possible 10 points above, the curve of *pulse frequency.* It is given by intramuscular injection about every third hour. Commonly, 1 Cc. of a good preparation is sufficient.

2.—To *overcome gastric or intestinal distention.* It is then given hourly and, if need be, supplemented by eserine. Lavage of the stomach and lavage of the colon may also be needful. Turpentine by mouth, turpentine stupes, asafetida and alum enemas, are at times useful aids.

These three agents, then, *Pituitary, Digitalis* and *Quinine,* are all required in the definite (or as one of the writer's assistants terms it, the "P. D. Q.-recovery") method of treatment of the pneumococcus pneumonias.

In other respects, the method has no special peculiarities. Integral parts thereof are: *fresh air*—cold or warm as best suited to the individual case; *water* freely; some *alkaline diuretic,* preferably an artificial mineral water made up with sodium *bicarbonate,* sodium or ammonium *citrate,* sodium *phosphate* and sodium or ammonium *chloride;** a suitable *diet;* careful *nursing* in general. When needed for special indications, *oxygen, blood-letting, strychnine, musk, atropine, ammonium salts, creosote compounds*—very rarely an *opiate* or a *bromide,*

*Sodium chloride solution by ***hypodermoclysis*** or *proctoclysis* is sometimes needed, and always useful.

may be added for sedation.

Whisky (or other palatable form of alcohol) is to be given freely when indicated. None may be called for in cases seen early. Sometimes, especially in the weak, in the aged, and when there is difficulty in feeding, a pint or more daily may be needed.

Revised Bedside Directions

Preliminaries

PULSE, temperature and *respiration* are recorded, together with the *blood pressure,* both systolic and diastolic. Due arrangements are to be made for proper supply of *fresh air.* The patient receives a preliminary *cleansing sponge* or bath followed by a hot-alcohol rub, and his chest is either wrapped up in a *lamb's-wool* or *cotton-batting* jacket—this sometimes being preceded by a *mild mustard poultice*—or a hot flaxseed poultice is applied.[1] A preliminary purgative dose of castor-oil is given; or, if preferred, 2 to 5 grains of calomel, followed by a saline. A suitable *quinine* compound is then to be administered in large dose, preferably by vein or muscle.

Intramuscular Injections of Quinine

Quinine and urea hydrochloride, and quinine chlorhydrosulphate are the best salts for intramuscular use. These, or the dihydrochloride, hydrobromide, or, better, the *dihydrobromide,* can be injected intravenously.

According to the severity of the case and especially the height of the temperature, the first injection of the quinine compound, is from 10 to 25 grains (0.6 to 1.5 Gram). The second injection, made three hours later, should ordinarily not be more than 15 grains (1 Gram) nor should any injection be given if the temperature has by this time fallen to 100° F. or less. The signal for renewing the injection is, failure of temperature to continue its fall, or a rise of temperature, later, to or above 100° F. To put it differently: the injections (10 to 20 grains intramuscularly) are *repeated every third or fourth hour until the temperature falls to 100° F. or less, and then are intermitted until the temperature rises again to 100° F. or more, and then repeated as indicated.* If, however, the desired fall has not been reached by the time that four or at most five injections (i. e. 60 to 90 grains of the quinine salt) have been injected, the interval is increased to six hours or even more according to circumstances.

Any sign of *untoward cinchonism* calls for caution in the further use of the drug, or even for the discontinuance of the quinine injections. Such sign would be dullness of hearing, ringing in the ears, dimness of vision, or persistent sweating. Untoward cinchonism, however, is rare. While it is always to be watched for, it is not ordinarily to be apprehended.

Certain *precautions* are necessary in *intramuscular* injections, especially when the quinine and urea salt is used. The solution of the latter (60 to 30 percent) is best made extemporaneously in boiling water, so that a syringeful (20 to 60 minims, say, or 2 to 3 Cc.) contains the dose to be given—10 to 25 grains (0.6 to 1.6 Gram). Commercial ampules of sterile 50-percent stock solution may be used if necessary. It is convenient to have ready, in the ward, papers or capsules containing 10 and 15 grains (0.6 and 1 Gram), respectively—the contents to be dissolved in a syringeful of boiling water and so used. Antiseptic routine must be followed strictly.

Quinine dihydrobromide dissolves in 8 parts of water. The chlorhydrosulphate was used by Aufrecht and Penzold and by F. P. Henry. Like the urea compound, it is soluble in 1 part of water. The author has seen neither slough nor abscess from the more soluble compounds, in any instance in which he was sure that they had been carefully used.

The *skin* of the site selected for injection (posterior or exterior aspect of arm, thigh, shoulder, *avoiding the regions of nerve-trunks*), is painted with tincture of iodine; the needle is plunged deeply through the iodized skin into the muscle, and thoroughly emptied. In withdrawing the needle, care is taken that a drop of solution does not fall on the skin. The puncture may be sealed with collodion. Necrosis and abscess are thus avoided.

Intravenous Injection of Quinine

Intravenous injection is practicable and efficacious. From 5 or 10 to 150 mils (Cc.) or more, of salt solution (0.85 percent of sodium chloride) at 104° to 110° F. may be used with 0.5 to 1 Gm. of the quinine salt; the exact quantity varying with the solubility and irritant or acid properties of the latter. The less the solubility or the greater the acidity, the more dilute must the solution be. The sterile solution should be run into the vein slowly, with all needful precautions. *Quinine dihydro-*

[1] When practicable, the following routine is useful: (1) *Counterirritate* with 50-percent mustard poultice mitigated with egg-white and glycerin, 60 to 90 minutes. (2) *Cleanse* with warm alcohol. (3) *Anoint* with vaseline. (4) *Wrap up,* 1 hour, in lambs' wool. (5) Apply *jacket-poultice* of hot flaxseed paste, *well made,* between two layers of cheesecloth. This should keep hot 4 hours. *Over the poultice,* apply *oiled silk* or *waxed paper* to help retention of heat. *During the day,* apply a fresh poultice every four hours. *At night, to avoid disturbance of sleep,* substitute the lambs' wool.

bromide dissolves in 8 parts of water. Sterilization must be accomplished by the low-temperature fractional method extending over three days. Hence, it is well to have ampules containing 1 Gram in sterile solution (10 percent) ready for use and dilute this further (to 1 percent) when using.

Quinine By Mouth

When it is impracticable to administer the quinine solution by vein or muscle, administration *per os* may be substituted; but it is far less effective. The doses should ordinarily be increased by at least 50 percent and be administered every two or three hours in a routine way, irrespective of temperature—unless this becomes and remains normal—but with care to avoid cinchonism.

The exact quantity to be given will depend upon the severity of the symptoms. Commonly the first dose is 25 grains (1.6 Gram). It may be more.

Administration by mouth may be all that is needed after initial treatment by intravenous on intramuscular injection. This, let it be repeated, depends on the *effect* of the initial dose, and this in turn depends on the *promptitude* of its use.

The second and third doses are commonly 15 grains (1 Gram) each. Doses of 5 or 10 grains (0.3 to 0.6 Gm.), every two to four hours may, however, in favorable cases, be sufficient after a full initial dose by vein, by muscle or by mouth. But in any case, and however administered, enough must be given to induce *quickly* and maintain *constantly* a full quinine effect. Failure comes, most frequently, from insufficient dosage.

The best quinine salt for use by mouth is the *dihydrobromide,* which in experimental observations by Dr. J. A. Kolmer and the author ("Transactions of the Association of American Physicians" for 1916) showed certain exceptional qualities. It destroyed pneumococci in a dilution of 1:200,000 in salt solution, and 1:400,000 in serum. Optochin (ethylhydrocupreine hydrochloride) is more effective in salt solution, killing the pneumococci in a dilution of 1:2,000,000; but in serum its activity is reduced by 80 percent, making the two agents equal. And, optochin is too toxic to be used systematically in effective dose in man. The quinine dihydrobromide, therefore, is, for the present, our *best pneumococcicide for use internally.*

When the dihydrobromide can not be obtained, the *(mono) hydrobromide,* which stands next in efficacy, may be used. If neither of the bromine compounds should be available, any quinine salt procurable will be of service—if the dose be made large enough.

Duration of Treatment

The use of *quinine*—especially by injection—is not commonly kept up for more than seventy-two hours; but there is no *time limit.* One judges by effects produced. Sometimes it is needed for twenty-four hours only. *Digitalis* and the *pituitary principle* are given so long as the pressure-pulse and pressure-respiration ratios call for them. All of this, however, is a question of judgment in the individual instance. Tincture of ferric chloride or Basham's mixture, with or without strychnine, are to be given when the quinine is withdrawn.

Total Quantity of Quinine.—In many cases, a single large dose is sufficient. In others, ten or more may be required. Commonly, three or four good-sized injections will suffice. The author has used as little as 25 grains; as much as 250 grains. When quinine is given by mouth only, a larger dose and a larger number of doses are needed than when treatment is initiated or continued by intravenous or intramuscular injection; hence, a larger total quantity. The drug must be used *promptly;* and *enough, but no more,* is to be given. The *temperature index* is the guide. It should be brought to normal or thereabouts as quickly as possible, and kept below 100° F. This is a more pronounced effect than was at first advocated. The first few doses must be large; the latter ones may be smaller.

Purgatives and Enemas

The preliminary dose of calomel is to be followed by a saline, as magnesium sulphate. After this, a daily laxative saline enema is to be given; or, if circumstances render it more desirable, a suitable saline aperient may be administered regularly.

Pressor Agents

Cocaine hydrochloride (1-2 grain) or *a liquid posterior-pituitary preparation* — commercial ampule of 1 mil (Cc.)—should be injected into a muscle (or given by mouth in double dose) with the first dose of quinine. Administration *per os* is far less effective than the injection.

After that, the relation between pulse frequency and systolic blood pressure governs repetition of the dose. *It is to be repeated every third hour so long as, and whenever, the pulse frequency, in beats per minute, exceeds the systolic pressure in millimeters of mercury* (Gibson pulse and pressure ratio); or whenever, irrespective of pulse frequency, there is *a persistent tendency for systolic pressure to sink to or below 90 or 100 mm. Hg.* If third-hourly administration is ineffective, the interval

may be shortened; or, cocaine and pituitrin may be alternated every second hour, or even every third hour. In exceptional cases, it is well to give camphorated oil (20 to 30 minims of a 20-percent, sterile solution) along with the cocaine and pituitary liquid—one or the other every hour; that is to say, each of them every third hour.

For prompt stimulation of the heart, in an emergency, nothing equals the injection of a good tincture of musk, 10 to 20 minims. A good tincture of musk, if obtainable, is better than camphor. Dose, 10 to 20 or 30 minims by hypodermic injection. It is specially applicable to cardiac emergencies owing to its rapid diffusion independent of circulatory activity.

Solution of *epinephrin hydrochloride* (adrenalin) 1:1000 (1 mil) may be injected occasionally in place of pituitrin. It is inert by the mouth. When there is a tendency to tympanites, the pituitary preparation should be given hourly, for at least three hours in succession; after which, *if necessary,* it may be alternated at 2-hour intervals, with a few doses of *eserine salicylate* (or other eserine salt) (1-60 grain; 1 mgm.). Here, too, the frequency, dose, and total number of injections must be a question of judgment, according to effect in any given case.

While all *unnecessary examination* of patients is to be avoided, the *left lower axillary region should be percussed daily, or even twice daily, as a routine.* If tympany is found beyond the midaxillary line, it indicates paralytic distension of the stomach. The stomach should be washed out at once with hot saline solution or alkaline solution, and the hourly pituitary injections instituted.

If there is occasion for *hypodermoclysis* or *angioclysis,* the pituitary extract or adrenalin (or quinine) may be added to the saline solution.

When the sphygmomanometer (blood-pressure measuring instrument) is not used, the *force of the pulse* and its *volume,* together with the *sounds of the heart* (as to both, *force* and *clarity*) must be the guide in administration of pressor agents. *Overstimulation is to be avoided,* but needed stimulation and support must be given. In the presence of *pulmonary edema, pituitrin and adrenalin should be withdrawn;* but cocaine and caffeine can be used in conjunction with atropine.

Cardiants

While *aconite* and *veratrum viride* may be useful at the very inception of an attack of lobar pneumonia, *they can only do harm after crepitus has disappeared and bronchial breathing supervenes. Digitalis* is then to be used, as necessary. The physician may use any good preparation he prefers and understands.

At first, a dose equal to 5 minims of the U.S.P. tincture is to be given *by mouth* every 4 hours or thrice daily, as best fits the nursing schedule. But, when the *definite indication* for digitalis appears, hypodermic or intramuscular injections should be instituted, if possible.

The dose must be large; at least, it should equal 20 minims of the U. S. P. tincture and may be much greater, according to the patient's reaction. The *interval* between injections commonly is four hours. If repeated injections are not feasible, or if they seem undesirable, the digitalis may be given by mouth every two hours to keep up the effect after the first injection. *Very, very much larger doses* may be given in individual cases, with due regard, of course, to intervals. The larger the quantity, the longer the interval must be. Necessarily, *the effects must be watched* and the dose and interval increased or diminished, according to the result in a given instance.

The *definite indication* for digitalis is, *wobbling of the pulse* or *a fall of diastolic blood pressure to 60 mm. Hg. or less;* especially if that brings the pressure to *within 10 points of the respiration rate* (in excursions per minute; *—author's pressure and respiration ratio*). *Digitalis results are slow to appear, but they are much more prompt and positive when quinine is given than in its absence.* Here, also, good judgment is needed, both in giving and in withdrawing or intermitting the drug.

(Experienced physicians may be able to estimate the circulatory condition by the palpating fingers—but "feeling the pulse" is fast becoming one of the lost arts; and even the most skillful will sometimes fail to judge pressure correctly. Hence, directions are given in terms of instrumental measurement. In terms of the day before pressure-measuring instruments were used, the *diastolic pressure* is the "arterial tension" *between beats.* It is indicative of the tone of the relaxed heart and of the great vessels, as well as that of the peripheral artery. The *systolic pressure* is the *"force of the beat").*

Venesection, venoaspiration, bloodletting or *wet cupping* may be called for when there are signs of *dilatation of the right heart;* and especially if *pulmonary edema* be present or imminent.

In case of actual or threatened edema, *atropine* should be used freely and boldly. At least 1/50 grain, and often 1/25 grain, should be injected under the skin, and *repeated as*

needed—every 30 to 90 minutes, if need be. Such injections may be kept up under proper supervision for 10 or 12 hours continuously if the effect is not maintained otherwise.

Water, Chlorides, Alkaline Salts

A sufficient intake of chlorides and of alkaline salts should be provided for.

Hypodermoclysis of 250 to 1,000 mils of saline solution or of a modified saline solution (*sodium chloride*) 50 grains (3.3 Grams); *crystallized calcium chloride* C. P., 3 grains (0.2 Gram); *ammonium chloride,* 7½ grains (0.5 Gram); dissolved in 1 pint (500 mils) of sterile water may be given, according to F. P. Henry's plan as a routine, daily or even twice daily; or may be reserved, as in the writer's practice, for specially toxic individuals or those who will not or cannot drink sufficient of the alkaline-saline beverage he prescribes or of Quimby's chloride mixture. Or the *Murphy drip* (proctoclysis, 30 drops or less to the minute) may be used.

The writer's *alkaline-saline beverage* is made by dissolving in a glass of hot or cold water (as most agreeable to the patient) *sodium phosphate,* 5 grains; *sodium chloride,* 5 to 10 grains; *sodium bicarbonate,* 10 grains. A glassful, more or less, of this is given hourly if possible; or at least every two hours. If too salty or too soda-like, the proportions may be altered or the quantities reduced. Lemon-juice may be added, to cause effervescence and improve the taste. This, of course, leads to the formation of *sodium citrate.* The latter salt or ammonium citrate may be used originally, if preferred. Sugar also may be used, occasionally. When alcohol is to be given, whisky or brandy may be added to the saline beverages.

Quimby's chloride mixture consists of about 5 grains of *ammonium chloride,* 10 grains of *sodium chloride,* and 1 grain of *calcium chloride,* in a glassful of water. Doctor Quimby gives it hourly. The proportions and quantities may be varied, if necessary. This may be alternated with the alkaline-saline beverage, if found more palatable.

The general idea is: (1) to give *plenty of water* and thus keep up the urinary output to at least 2,000 mils (70 ounces) daily; (2) to give *chlorides in sufficient quantity*—at least 60 grains (4 Grams) each twenty-four hours; and (3) to *keep the urine alkaline or neutral.* Accordingly, the nurse is instructed to test the urine with litmus paper each time it is passed, and to increase the ammonium salt or the sodium bicarbonate (or citrate) whenever the blue paper turns distinctly red.

Food

Liquid or semisolid nutriment is to be preferred—perhaps predigested; thus, pancreatized milk, peptonized milk-gruel, (or, when patients cannot prepare these, the proprietary foods of like character), raw or soft-boiled eggs, junket, custard, soups, barley-broth, beef-juice, peptonized beef, albumen-water, and, if necessary, whisky or brandy. In the case of alcoholic subjects, alcohol in moderate quantity is needed. They may be reformed later. They should also receive, as a stimulating eliminant, 1 ounce hourly of *solution of ammonium acetate,* and the other treatment be modified accordingly. Nonalcoholic patients may be benefited by alcohol in the later stages (fourth to ninth day) should the symptoms in general seem to call for it; and especially when fever continues high despite the quinine. Here, also, general rules are impossible. It is a question of *good judgment at each visit.* Champagne may be tolerated when milk or other bland food is not, and may even help to control vomiting. The bold use of alcohol as food and tissue-sparer has, in the writer's hands, saved many desperate-seeming cases. He has not hesitated, because of the development of a mild alcoholic confusion, to push the whisky when it has seemed necessary.

Fresh Air

A roof or porch is preferable to a room; a big, high-ceilinged room to a small, low-ceilinged one; many windows to few openings. Windows should be kept open top and bottom, the patient being screened from draughts. There should be plenty of bedcovers. The mattress should be covered, both top and bottom, with paper or a rubber sheet or mackintosh, to exclude the cold air that, below as well as above, easily penetrates the ordinary mattress. Over the covered mattress, a blanket should be placed and then a sheet. Hot bottles and the like may be used to keep the air beneath the bedcoverings warm. For robust young people, cold air is desirable outside the covers. Old folks and delicate children *need warm air* (65° to 80° F.) as well as fresh air. So do alcoholics and the debilitated. *Fresh air need not be cold* and *warm air need not be stale,* if a little ingenuity be used to make the best of conditions.

Oxygen—warmed, if necessary—may be reserved for emergencies. If used, it must not be expended economically. Continuous or almost continuous inhalation for twenty-four hours to forty-eight hours is necessary, if its use is called for at all. Oxygen prepared extemporaneously is best. An apparatus which

utilizes sodium peroxide "cartridges" is easily managed, and an attendant can be instructed in its use without much trouble. It ensures a continuous supply, especially when one is at a distance from a well-equipped drug store. Meltzer's "pharyngeal insufflator" should be used as terminal—or at least some mouthpiece that cannot be broken or occluded by the patient's teeth or tongue. The use of face-mask or nose-piece is not to be commended and is commonly futile.

Bloodletting, Nursing

Bloodletting may be indicated by extreme *dilation of the right heart* or the occurrence of *pulmonary edema.* Wet cups or venesection may be employed according to circumstances.

Nursing must be continuous, careful, and intelligent. All the details that come under this head—system, cleanliness, disinfection, quiet, rest, avoidance of unnecessary disturbance, must be scrupulously observed. It is best to institute a 2 to 4 hour schedule including medicine, food, and all other services—so that the patient always has peace for two hours; save in grave emergencies.

Delayed Convalescence. Bacterins

If resolution is proceeding normally, as shown by the crepitus redux, and the like, a simple tonic of iron or of iron and strychnine or of iron, strychnine, and quinine may be all that is needed. Basham's Mixture is suitable.

If, however, notwithstanding the subsidence of temperature and the restoration of normal respiration rate, resolution does not set in, the administration of a *bacterin* is desirable. This should preferably be made of a culture obtained from the sputum or blood of the patient (socalled autogenous vaccine). The initial dose is 25 or 50 millions to 100 millions of killed pneumococci, and this is to be increased at successive doses by 25 millions, 50 millions, 100 millions or more, according to the reaction of the patient, as shown by temperature, by leukocytosis (and especially phagocytosis), as well as by focal symptoms. Commonly, three doses may be given in daily succession before reaction is evident. Thereupon one waits from three to seven days, until the reaction subsides, and repeats the injection, but in increased dose. Both, time and quantity vary considerably with the individual patient, so that no uniform rule can be laid down.

Good results may be obtained, not only from the ordinary method of subcutaneous or intramuscular injection, but also from oral administration of the bacterin (vaccine) in about 1 ounce of normal saline solution. The preferable *time* for administration of killed bacteria by the mouth is before breakfast, as the dose is absorbed more readily from the empty stomach. Normal horse serum sometimes is a better vehicle than is salt-water; or a teaspoonful of (expressed) beef-juice in 2 ounces of salt solution may be used instead.

When not only resolution is delayed, but fever and disturbed respiration persist unduly, the bacterin-treatment is also of considerable service.

Disinfection of the upper respiratory tract is useful and sometimes necessary. It may be done in various ways: thus for example, by applications of *argyrol solution* (20-25 percent) or of *phenol-iodine (phenol, iodine,* each 3 grains; *potassium iodide,* 5 grains; *menthol,* 1 grain; *glycerin,* 1 fluid ounce) to the nasal mucosa; by spraying the nose and throat with *aromatic and phenolated oily solutions;* by *continuous inhalation of creosote, eucalyptol* and *bromoform* from a Yeo (perforated zinc) respirator; by *gargling* with *sodiumperborate solution* or *succinic-dioxide solution;* by painting the tonsils and pharynx and perhaps spraying the larynx and trachea with a 1 to 2 percent solution of *quinine and urea hydrochloride* or of other quinine salt or even a 1:10,000 solution of *optochin,* and by other like expedients. The particular measure or measures to be employed will depend on practicability and the general condition of the patient. *Unnecessary disturbance is to be avoided.*

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On Lumbar Arthritis

By PROFESSOR ANDRÉ LÉRI, Paris, France

Member of the Faculty of Medicine of Paris; Physician to Cochin Hospital, Paris

BY lumbar arthritis is meant, the localization of chronic vertebral rheumatism in the lumbar vertebræ.

This affection was observed with great frequency during the war; for, in the neurologic service of one army, we saw not less than forty cases in the course of a few months, and we have treated as many as seventeen cases simultaneously, out of a total of two hundred patients. The affection produces symptoms very different from those recognized hitherto as pertaining to chronic vertebral rheumatism.

Professor André Léri.

The patients whom we have had under observation are most frequently young; possibly because we have encountered them particularly among soldiers; most of them are between twenty and forty years of age. They enter the hospital on account of lumbago or sciatica which may be bilateral or changing about, although it is usually unilateral. They complain of sharp pains, which are continuous and paroxysmal, in the lumbosacral region, often also in the buttocks and the thighs, sometimes even limited to the calves.

The posture of the patients is very variable. Only rarely do they stand almost erect; almost always they are forced to bend the body forward and hold the knees more or less flexed, in such a fashion, that the trunk forms an angle of 170 to 140 degrees and even less with the thighs. Laterally, they may or may not be bent more or less markedly towards the right or left. However, there is no angular deviation, and the posture recalls that of scoliosis following upon sciatica. It may be remarked that, in case of sciatic pain, the trunk sometimes is bent toward the painful side; the scoliosis is "homologous," this being unusual in cases of ordinary common sciatica. At times, the scoliosis alternates.

When the patient stands up, one observes sometimes a slight degree of puffiness in the lumbar region but without redness or heat, without an actual edema. The bony protuberances are merely obliterated. More frequently, there is seen an obliteration of the physiological lumbar lordosis. Sometimes, this lordosis is replaced by a certain degree of kyphosis and the line of the spinous apophyses stands out at the level of the second, third or fourth lumbar vertebræ. Sometimes the twelfth dorsal is included.

When the patient bends forward as much as possible, it will be found that this motion is much lessened; the knees bend very promptly and the angle formed by the trunk with the thighs only rarely is a right angle and even less often more than that.

In this same position, one finds also that the projection of the line of lumbar spines is accentuated and becomes quite striking.

Characteristic Line of Spinous Processes

The projection of the lumbar spinous apophyses varies greatly according to the patients. However, in normal persons, one does not see so prominent a spinous line which projects in so limited a number of vertebræ and is confined to the painful ones. When a normal person bends forward and tries to touch the tip of his feet with the tips of this fingers, the dorsal and lumbar column forms a continuous arch which is slightly convex in the lumbar region. If one of our patients bends forward in the same manner, even though the flexure of the trunk is much less pronounced, it is found that the lumbar region forms an arch that is quite sharp and of short diameter; the dorsal region forms another arch much less marked and with a far greater diameter. Be-

tween the two, there is an actual depression. Far from being a regular curve, the spinous line thus becomes undulated. This projection of the line is characteristic and impresses us as being almost the pathognomonic sign of the affection which we are describing. It is not seen in all cases of chronic lumbar rheumatism, but, when it is present, it seems to possess great value. It is this line that has particularly

Fig. 1.—Patient D. Lumbar arthritis. The patient, walking as straight as possible; bending forward and a little to the left. Slight curvature, but no kyphosis. Although he can not straighten up spontaneously and while every attempt to do so is painful, he can straighten out completely when lying in bed. The spinous apophyses of the third to the fifth lumbar vertebræ form a very evident oblong projection.

attracted our attention and incited us to undertake radiographic examinations which almost constantly furnished a clearly positive result.

In a general way, it is admitted almost as a dogma that every spinal lesion produces a contracture of the perivertebral muscles and an immobilization of the vertebral column or at least of a portion. This is the case, for instance, in Pott's disease which, in the opinion of so many observers, still comprises almost the entire pathology of the vertebral column. In our patients, this is not the case. There occurs no or hardly any contracture of the lumbosacral muscles; they are at times slightly thickened or stiff but commonly less so than is seen in common sciatica.

Mobility of Vertebral Column

The "active" mobility (so to speak) of the vertebral column is certainly reduced since, usually, the patients can not straighten up completely nor bend forward like normal subjects. However, if they stoop, it will be found that the vertebræ of the affected region are not immobilized upon each other as is the case in Pott's disease. They do not have a "wooden spine."

As to the mobility of the vertebral column which might be called "passive," it is astonishingly preserved; lying extended on a bed, the patients can stretch themselves with perfect ease so that head, pelvis and feet touch the plane of the bed. Lying prone, they can likewise stretch out completely, but generally the position is very painful and it is then found that the physiological lumbar lordosis, which should be particularly well marked in this position, is not noticeable at all. When, in this position, one lifts the patient by the thighs, he seems to have pain, but it will be found that the lumbar column becomes more or less hollow, and thus reveals the preservation of a relative mobility of the individual vertebræ one

In Fig. 2, the same patient attempts to touch his feet and bends forward almost in the maximum degree. The angle formed by the trunk and the hips does not attain to 90 degrees. The projection of the lumbar spinous apophyses is accentuated and reaches as high as the first lumbar vertebra.

upon the other. Finally, when the patient stands straight and his shoulders are turned alternatively to the right or left, it will be found that the lateral mobility of the column sometimes is more pronounced in the dorsal region than lower down; but that it is never completely abolished in the lumbar region as it is the case, for instance, in lumbar Pott's disease. These attempts at lateral bending of the trunk often give rise to pain, maybe in the loins, maybe more in the buttocks or thighs. However, this pain frequently is less pronounced than that in common sciatica; moreover, it is felt frequently on bending the trunk

to the side opposite to that where the pain is. This is seen only exceptionally in common sciatica.

Radiographic Findings

The absence of spinal contracture and immobilization was hitherto considered as a negative sign almost sufficient to eliminate the existence of an inflammatory vertebral lesion. It was assumed that the spinal column was not affected since the vertebræ have maintained their motility and the patient can straighten out completely. Struck by the number of cases where these subjects, coming from different places, complained of the same tenacious lumbar and sciatic pains, struck especially by the almost constant presence of a curvature, at least of the trunk, and an abnormal projection

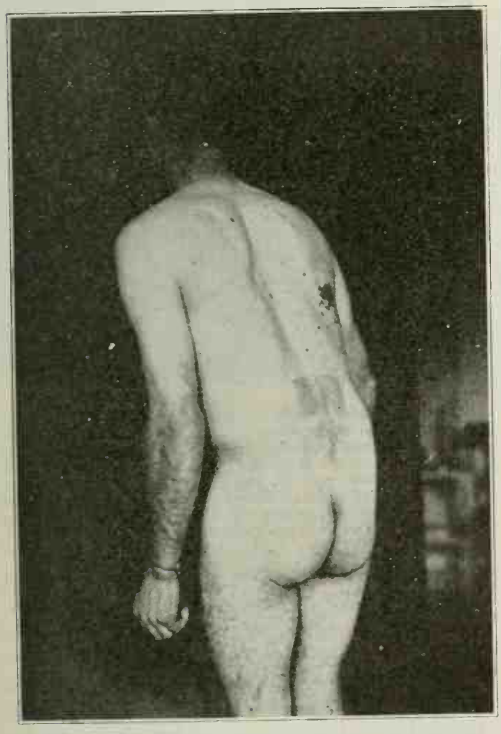

Fig. 3.—Patient B. Lumbar arthritis. Showing the bending forward, the large undulation of the back, the projection of the line of lumbar spinous processes together with a certain flattening of the region. A blister has been placed here.

of the lumbar spinous line, we were induced, despite the preservation of the spinal mobility, to subject them to radiographic examination. The result has been almost always positive.

In a radiograph taken from the front, we find, in general, that the vertebral bodies are strongly grooved by the enlargement of their superior and inferior extremities and by the relative diminution of their middle portions. They assume the appearance of a pulley groove or, if you wish, a *"Vertèbre en diabolo."*

Moreover, the vertebræ have the appearance of being sunken and they are, further, relatively transparent as though there had been a certain tendency to decalcification.

Exceptionally, the sinking of one vertebra is clearly more marked on one side than on the other, corresponding to a lateral deviation of the trunk.

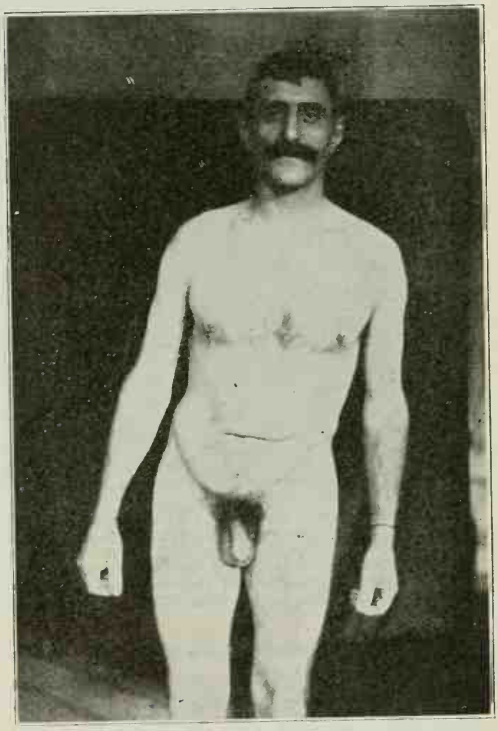

Fig. 4.—The same patient. Notice the very evident inclination of the trunk toward the left side; although there is no scoliosis, properly speaking. The right hip is projecting. A transverse abdominal fold corresponds with the bending forward of the trunk.

On a certain number of vertebræ, particularly those where the pain and, especially, the spinous projection are at their maximum, it will be found that the superior or inferior extremity is prolonged like a sort of elongated beak which is curved and tapered. This prolongation is found frequently opposite an analogous prolongation in the neighboring vertebra. They are separated by the thickness of the intervertebral disc. The result is the very characteristic appearance of a parrot's beak.

This latter is readily explained on noting, in numerous museum specimens and also in some that we have collected ourselves, the "osteophytic crowns" that adorn the superior or inferior surfaces of the vertebræ, which sometimes are as much as twice the normal and

which constitute one of the essential characteristics of chronic vertebral rheumatism (*rhumatisme vertébral ostéophytique* of Prof. J. Teissier). It appears evident that the "parrot's beak" is formed by the projecting brims of new ossification.[1] These new-formed osseous projections, which taper off one in front of the other beginning with two superincumbent vertebræ, ultimately surely become fused and immobilize the vertebræ involved. But, they remain differentiated very long, separated at the level of the intervertebral disc and it is thus that we have observed them most often in our patients, who had been ill for a relatively short time, since they had become soldiers and had become afflicted in the army service, also in those who had been in service for several years.

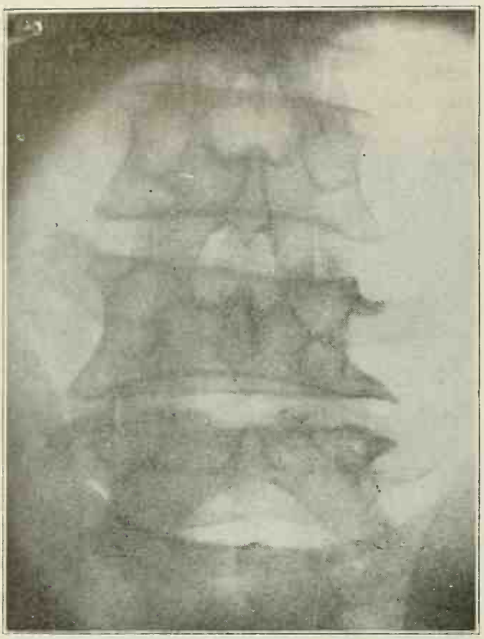

Fig. 5.—The same patient. The radiograph shows an enlargement of the vertebral surfaces, formation of bony, hook-like projections on the fourth and fifth vertebræ. Unequal crushing of the fourth, being more marked in the left portion of the vertebra. This explains the inclination to the left. The apophyses appear inflated.

The osseous proliferation can not be systematized in like manner. Osteophytes may become conglomerate, as nodules or as large tubercles the size of a hazelnut and even a walnut, and may show upon the radiograph as quite dark shadows with regular contour, on the body or any portion of the vertebra, especially near the disc.

The osteophytic proliferation does not take place without a certain degree of decalcification and of osteoporosis of the old bone and without a certain grooving of the vertebral bodies. This rarifying osteitis is, to a certain degree, inseparable from every chronic rheumatism and it is the new-formation that gives to the vertebræ their deeply-grooved and abnormally-transparent appearance[2]

Fig. 6.—Radiograph of patient L. Typical hooks curved in and thinned out. They are developing opposite the left side of the first and second lumbar vertebræ and form a regular "parrot's beak." The hook is less marked on the third vertebra. Tendency to *vertèbre en diabolo*. The spinous line on the back of the patient especially marked at the level of the first and second lumbar vertebræ.

Finally, as Professor Teissier and we ourselves have shown, all transverse articular spinous apophyses and also the vertebral lamina are thickened and "blown out." Probably it is this diffuse thickening and perhaps in particular the blown-out condition of the spinous apophyses that cause the special projection of the lumbar spinous line that we have observed clinically, especially when the patient bends forward.

The radiographic findings, even more than the clinical ones, justify our assertion that there exists in our patients actually a chronic vertebral rheumatism localized in the lumbar region.

The Course of the Malady

What is the evolution of this affection? A priori, one is tempted to view it as progressive,

[1] These beak-shaped osteophytic proliferations are not peculiar to the vertebral column. They are sometimes observed in quite analogous form on radiographs of different joints affected with chronic rheumatism and even on the pictures of certain fingers showing the simple nodosities of Heberden.

[2] The cartilages are often thickened very irregularly and the superior and inferior surfaces of the vertebræ are irregularly undulated.

definite and incurable. However, we are able to affirm that this is not the case. The malady progresses by repeated attacks each one lasting several months, from two to eight or ten. Several of our patients informed us that they had had several analogous painful attacks, either in military service or in civilian life; apparently they had recovered from them quite well enough to have been accepted or retained in the army. We have been able to follow up this evolution in several of our patients and notably in one of them; exactly one with the

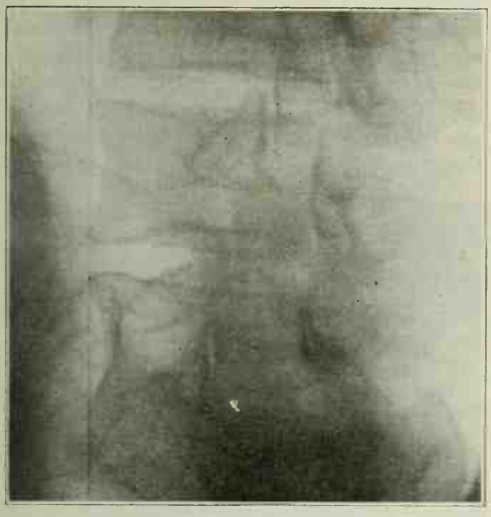

Fig. 7.—Radiograph of the profile of the lumbar vertebral column, patient S. A front view had shown hardly any lesion, despite the characteristic posture of the patient. The lateral view shows quite evident lesions in the form of projections and hooks of the superior and inferior surfaces of the fourth and fifth lumbar vertebræ. The contour of the surfaces is irregular and undulated. Normally, the profile of the vertebral bodies appears almost cubical in shape on the radiograph.

most curvature; one of those who appear to suffer most, whose lumbar vertebral column and entire lumbar region were among those most projecting and whose vertebral lesions, on the radiograph, were among the most clearly marked and most indisputable. After three months, this patient had seemingly absolutely recovered. True, the osseous new-formations persisted, but the patient suffered no more pain, either spontaneously or on pressure or on moving; he held himself entirely erect and bent forward perfectly. The lumbar spinal column had become straight again and the kyphosis had given place to a certain degree of physiological lordosis.

The possibility of so perfect a clinical cure, at least temporary, must be known in order to appreciate justly the result of the treatment that is instituted, and also the medico-military decisions that are to be made.

A Definite Clinical Form of Rheumatism

The clinical appearance of the affection, the radiographic pictures, certain anatomic findings

Fig. 8.—Patient P. Shortly after his admission, the patient is found strongly bending forward and unable to straighten up. The back is undulated because of the projecting lumbar region. The lumbar spinous line projects.

that we have been in a position to make, establish the malady, as a *localization of chronic vertebral rheumatism.* There is, thus, no question of a new and autonomous clinical entity, but rather of a clinical form of rheumatism, in the same manner as deforming polyarthritis of the extremities or a deforming rheumatoid arthritis of the hip, for instance.[3]

This clinical form is much more frequent than are other forms of chronic vertebral rheumatism that have been described hitherto.[4]

[3]During the war, we have also observed very frequently forms of chronic rheumatism that were localized in the hip, characterized by pain appearing periodically and by a relative immobilization in certain directions, and which often could be diagnosed only by careful radiography. These chronic deforming arthritides, associated with osteophytes and rarification, occur also in young persons and, like lumbar arthritism, often give rise to mistakes, notably to false accusations of simulation. They are entitled, by analogy, to the designation *coxarthritis.*

[4]Chronic vertebral rheumatism has hitherto been considered as a clinical rarity. According to the authors, it is seen in persons from 40 to 60 years of age and more; it never involves the vertebral column exclusively; affecting always at the same time the joints of the extremities. The pain, the contraction of the perivertebral muscles, and the bony ankylosis immobilize the back. This is an essentially progressive disease. The localized forms are even more infrequent than is the generalized form. A dorso-lum-

In contrast to them, it persists in young subjects, it is neither progressive nor rapidly ankylosing; clinically it is rigorously localized in so far as it affects hardly ever simultaneously either the joints of the extremities or even the other portions of the vertebral column.

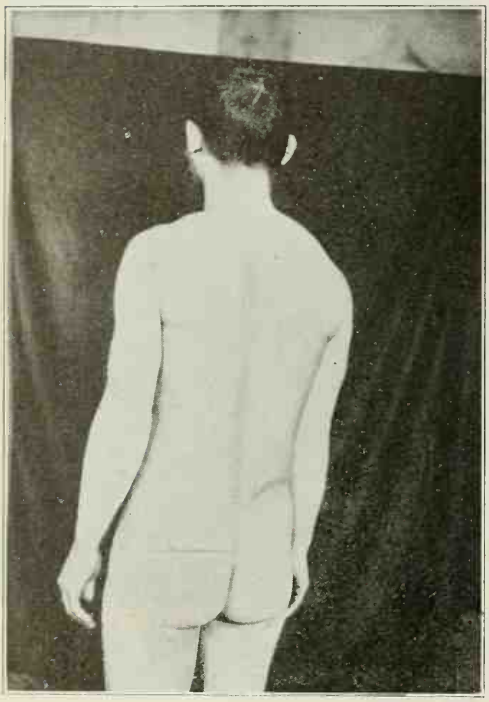

Fig. 9.—Same patient two months later. Completely straightened out. The abnormal projections have disappeared, as has also the pain.

That does not mean that radiography does not sometimes show some rheumatic alterations in the cervico-dorsal spine or even in the limbs. It may happen exceptionally that these alterations produce clinical manifestations like a deforming arthritis of the hip, for instance, which may be noted in the course of deforming rheumatism of the fingers; although these two localizations of the same process are not ordinarily associated. However, in lumbar arthritis, rheumatic alterations outside of the lumbar region are almost always absent even by means of radiography, or they are clinically silent, as are the vertebral changes of lumbar arthritis itself during the intervals. With regard to the clinical aspect of rheumatism, lumbar arthritis is entirely independent.

Relation to Other Diseases

Certain varieties of osteophytic vertebral rheumatism, especially those that give rise to voluminous hyperostoses, have been attributed to syphilis, with some appearance of reason. On this account, we have attempted to determine whether this latter disease plays a role in the etiology of the affection under consideration. However, neither in the history nor in the complete physical examination of our patients have we been able to find anything that might make us think of a syphilitic infection—with the single exception in a man who had a plaque of leukoplasia on the buccal mucosa. It was also in this man alone, out of 12 cases examined, that the Wassermann test was found to be positive. In another case, it was partially positive; in the remaining 10, the reaction was clearly negative.

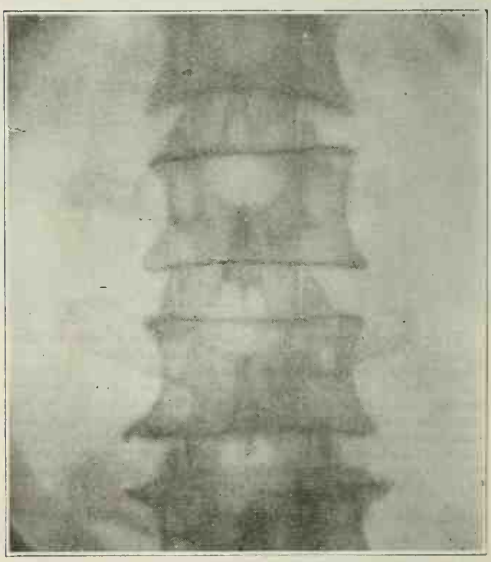

Fig. 10.—The same patient. The radiograph shows abnormal osseous proliferations forming hooks at the level of the third and fourth lumbar vertebræ. The right side of the second is slightly flattened, the right transverse apophysis is inflated. These bony alterations persist in spite of clinical cure.

Tuberculosis was no more responsible. In not a single one of our patients was there anything, in history or physical examination, that

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bar form, described by Professor J. Teissier and his pupil Jouve, presents symptoms of a very grave malady with absolute impotence of the lower limbs, considerable muscular atrophy, often secondary arthropathies in both knees, intense vasomotor disturbances, massive edemas, elephantiasis, etc.

(Consult: J. Teissier and Roque: "Rhumatisme chronique" in Brouardel-Gilbert, "Traité de Médecine". J. Teissier: "Les formes cliniques du rhumatisme chronique"; Report to the Congrès de Médecine de Liège, 1905. Thanasseseo: "Le rhumatisme chronique de la colonne vertébrale", Thèse, Paris, 1892. Jouve: "Rhumatisme vertébral", Thèse, Lyon, 1902. Forestier: "Spondylose rhumatismale"; *Arch. de méd.* 1901 and "Nouvelle Iconographie de la Salpetrière," 1904. Terras: "Les maladies ankylosantes de la colonne vertébrale". Thèse, Paris, 1908. Pierre Marie: "Deux cas de spondylose rhizomélique". *Rev. de méd.* 1898. André Léri: "La spondylose rhizomélique"; *Rev. de méd.* 1899. Idem: "Pathogénie des ankyloses vertébrales". Report to the Congrès de Lyon, 1906. Idem: "Diagnostic des maladies ankylosantes, etc." *Clinique*, 1908. Idem: "Les Spondyloses". *Journ. français de méd.* 1912.)

would point to tuberculosis. Blenorrhagia has never seemed to us to be a causative factor.

Rhizomelic spondylosis requires mention only to be discarded as having any connection whatever with the disease. True, rhizomelic spondylosis commences commonly with lumbar or lumbosacral pain, but almost simultaneously there is pain and ankylosis of the hips. The malady is progressive and usually progressively ascending. It causes ankylosis and immobilization, successively, of the entire spine and the articulations at the roots of the limbs. It is ordinarily of infectious origin and blenorrhagia

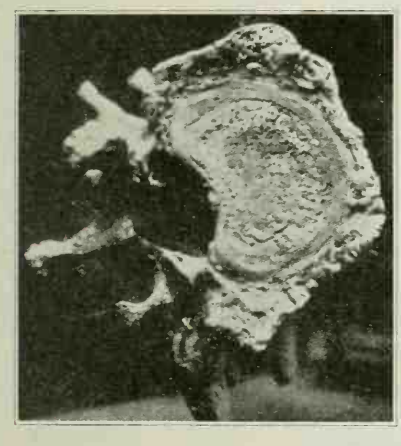

Fig. 11.—Chronic rheumatism (Dupuytren Museum): Lumbar vertebra, its superior surface. Surrounding the vertebral body, there is seen an irregular layer of bony new-formation, almost doubling the surface of the vertebra. It is grooved, passing in front of an analogous groove of the neighboring vertebra. This explains the formation of "hooks" and of "parrots' beaks" which may be seen in radiographs.

as well as tuberculosis may often be discovered in the immediate history or in some actual symptoms.

Moreover, chronic rheumatism, whatever its seat of predilection, is a disease with essentially irregular manifestations and irregular distribution, affecting not only a given joint but also all the intra- and periarticular tissues, bones, cartilages, serous membranes, ligaments, etc. The rhizomelic spondylosis of Pierre Marie is, on the contrary, a progressive and diffuse affection and may be considered primarily as a rarifying osteopathy, secondarily as a systemic and regular ossification, affecting fiber after fiber, the ligaments and their reinforcements, pads and menisci: a meniscoligamentous ossification, so to speak, up to a certain point limiting the process and affording repair.[5]

The radiographic pictures are, therefore, essentially different. In chronic vertebral rheumatism, one finds exostoses and osteophytic formations (parrot's beak, nodosities, etc.); the vertebral bodies are spread and cannulated, but have preserved a notable opacity in comparison to the discs; and the articular interspaces (clearly visible in the lumbar region where the articular apophyses have an anteroposterior direction) have preserved their sharpness of outline. In rhizomelic spondylosis, on the other hand, there are no exuberant proliferations,

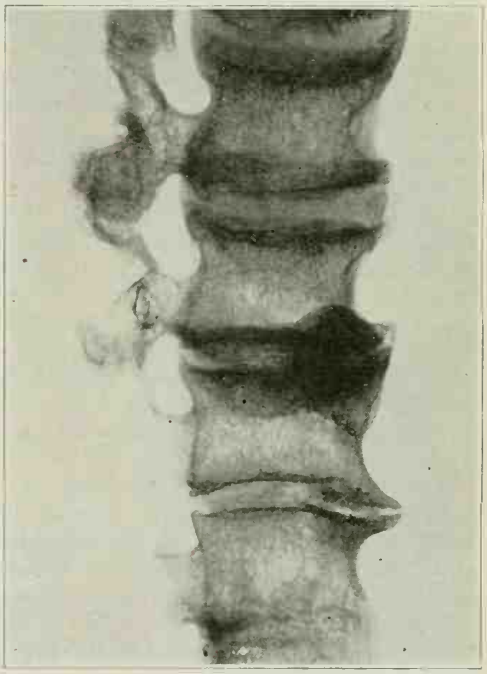

Fig. 12.—Radiograph of a specimen of lumbar vertebral rheumatism, lateral view. One can see quite typical hooks and parrots' beaks of the bony new-formations covering the vertebral bodies; vertebræ *en diabolo* and irregularly crushed portions, which are porous. The discs are thickened and irregular. The contour of the vertebræ is irregularly undulated.

the vertebral bodies are little or not at all deformed, but they are rarified and are hardly more opaque than the intervertebral discs; the ensemble is as though uniformly washed out. The articular apophyses are welded by ossification in the place of the ligaments and form an opaque band on each side of the vertebræ; the articular interspaces have disappeared.

Not Exclusively in Soldiers

Lumbar arthritis surely is not rigorously limited to soldiers. One of our patients, at least, had experienced an attack before his mobilization, and we have seen other patients who had never been soldiers. Moreover, this is proved by certain earlier observations scattered through literature, which deal very probably with the same type, and also by numerous

[5]André Léri: La spondylose rhizomélique. *Rev. de méd.* 1899.

anatomical specimens of vertebral rheumatism localized in the lumbar region, which are found in museums. The latter appear for the greater part to have been discovered on autopsy. Still, this disease certainly has become much more frequent since the war and, in this respect, it may be considered as a form of war maladies.

The cause of this abnormal frequency must certainly be sought in the special conditions in which the soldier finds himself in the field. Even during periods of rest, he sleeps on the damp ground or at most on a little damp straw in barns that are too frequently invaded by water. On the line, he lies often right in the water which could not be removed entirely from the trenches and shelters. In addition, he rests his back against freshly turned earth. It would be surprising if there did not occur, by predilection in the region of the back, what Professor J. Teissier has called the "localized effects of provocative humidity" and of which he has reported very interesting instances, as long ago as 1905, in his report on "The clinical forms of chronic rheumatism". As a matter of fact, most of our patients belonged to the infantry, a branch of the service where one occupies too often first-line trenches that are not sufficiently prepared, are open and uncomfortable.[6] Another factor, undoubtedly adjuvant, is the often excessive exertion to which the muscles of the back and especially of the lumbar region are exposed in the soldier, particularly the foot soldier: we are thinking of long marches in the mud, the weight of the knapsack and shoulder strap, and the heavy "barda" of the trenches.

Lumbar arthritis is actually one of the effects of the localization in the back of dampness and of fatigue. There exists quite a "pathology of the back" which is almost a war pathology. Thus, like ourselves, several authors have remarked that polyneuritis, which is not very infrequent in soldiers at the front, affects almost always in some degree the sacrolumbar muscles. In like manner, certain cases of amyotrophy seemed to affect with particular frequency the muscles of the dorsal region and, in some instances, we were able to incriminate a more or less localized cervical vertebral rheumatism, etc.

There is some cause for astonishment that an affection, which is so frequent and so well characterized as is lumbar arthritis, has not been discussed hitherto. Undoubtedly, the reason is, that it had not been sufficiently isolated and described. In fact, numerous physicians have seen instances of the disease since we have called attention to it. May one assume that it had not been observed until then? Surely not.

Relation to Sciatica

In the foregoing, we have said that most cases of lumbar arthritis had been entered in our service with the diagnosis of lumbago or of sciatica. It seems certain that, under these names, many cases of lumbar arthritis have been erroneously diagnosed in the absence of radiographic examinations. As far as sciatica especially is concerned, we have shown, as have also Sicard[7] as well as Schoeffer and I[8] that most cases of common sciatica, so called rheumatic, were accompanied by radicular symptoms and took their inception in the extrameningeal portion of the nerve roots, in their passage through the intervertebral openings and the anterior sacral canals. Schoeffer and I have supported this hypothesis by stating that, in more than half the cases of sciatica, the cephalospinal fluid shows a moderate lymphocytosis—from 10 to 20 or 25 lymphocytes in the microscopic field—so that it is produced, in cases of irritation, not in the meningeal membrane itself but in its immediate neighborhood.

Lumbosacral vertebral rheumatism thus seems to us to be the *ordinary* cause of sciatica. Be it understood, it is most frequently a question of an attack of acute rheumatism, not discoverable by radiography. But, after what we have seen, we are convinced that many of the cases of common rheumatic sciatica are in reality merely the manifestation of the chronic osteoarticular alterations of lumbar arthritis, with active exacerbations.

Relation to Vertebral Affections

On the other hand, it seems certain that lumbar arthritis corresponds, at least in a very great number of cases, to those which have been noted everywhere since the beginning of the war and which were diagnosed as spinal curvature, spondylitis, camptocormia, spinal curvature, etc.: the curved posture of the trunk without implicating its pathogeny. As a matter of fact, these cases have generally been considered as indicating a *functional* irregularity with or without commencing in an organic spine.

The clinical characteristics of these curva-

[6]It seems to us that cold is of less importance than dampness. The painful attacks started in our patients almost indifferently at all seasons of the year; as much during the warm months as in cold seasons. This coincides with what has been stated concerning the general etiology of chronic rheumatism.

[7]Sicard: "Le Movement Médical," 1913.

[8]André Léri et Schoeffer: Sciatique et lymphocytose. —La sciatique vulgaire "rhumatismale" est généralement d'origine radiculaire.—Le rôle des canaux sacrés antérieurs.—*Soc. méd. des Hôp. de Paris*, 12 *mai*, 1916.

tures, or camptocormias, are as follows: variable incurvation of the back with more or less accentuated flexion of the hips; pain that is apparently severe; limited voluntary correction and incomplete movements in the erect position; generally complete and spontaneous correction in the horizontal position, showing that the mobility of the spine is preserved; frequently recovery after variable periods of time, which, often is very difficult to secure and may not occur until after several months of fruitless attempts, psychotherapy and others, sometimes after the application of a plaster-of-Paris corset.

Are not all these characteristics exactly those which we have described as being those of lumbar arthritis, and is not this affection at least one form of the camptocormias?

With regard to etiology, two categories of camptocormia are distinguished: some patients have been shocked by the bursting, close by, of a shell; they were thrown down, thrown a distance, or even buried; others suffered no traumatism, either direct or indirect, great or small.

Most of our cases of lumbar arthritis had developed spontaneously and without previous shock.

It is far from us to deny the existence of purely functional camptocormia, with or without preceding shock. Like many of our colleagues, we have even cured certain cases of this kind, promptly and lastingly, by means of a somewhat energetic persuasive psychotherapy. But, these cases are not in the majority; far from it. Even in the hands of the most experienced, the camptocormic patients do not ordinarily recover as quickly, and sometimes we have been consulted by a patient who had been "cured" in another service. In these latter cases, we see hardly a perceptible difference, a priori, between the shockless camptocormia and lumbar arthritis.

Effect of Shock

Is there an essential difference between patients affected with lumbar arthritis and those with camptocormia who have been shocked or thrown? Excepting those cases which psychotherapy cures very promptly and also those cases, more numerous than is held to be the case, where a crushing or sinking of the spinal column pass unperceived in radiography, we believe that a goodly number of the socalled camptocormics are still lumbarthritics. It must not be forgotten that the relation between camptocormy and traumatism is by no means immediate. After shock or after being buried, lumbar contusions or lumbar pain occur promptly, but the camptocormic curvature is tardy, slow and progressive; it develops in the rear, after the soldier has been evacuated. We have never seen any cases in a neurological center at the front. Reversely, we have seen perfectly authentic lumbar arthritides follow upon traumatism, a fall into a hole upon the back, for instance. It seems quite often that the lumbar trauma, which is very real in some cases of shock from bursting of shells near-by or from being buried, has merely been the localizing cause of a chronic lumbar rheumatism to which the subject is otherwise predisposed because of dampness and overexertion coincident to life in the trenches. Professor J. Teissier has cited cases in corroboration and observed in civilian life of this localizing, predisposing and predominating action of trauma in chronic rheumatism; among others, that of a patient with arthritis deformans of the vertebral column following a railroad accident in which the head was sharply pushed against a seat.

In fine, we believe that there surely exist patients with curvatures or camptocormia who, with or without bursting shell or falling, are only "functional;" that is to say, neuropathics, hysterics, or "pithiatics;" more or less consciously so. We believe also that, through a more or less violent shock, vertebral or perivertebral lesions may be produced which justify an incurvation of the trunk by an antalgic posture, and that the perseverance of this posture after the disappearance of the pain may constitute a camptocormia that is promptly curable by psychotherapy. We believe likewise that, with or without prior shock, a lumbar rheumatism, a lumbar arthritis may determine an antalgic posture entirely analogous, the persistence of which beyond the painful period will produce camptocormia. But, we believe especially that, with or without prior shock, a number of subjects have been diagnosed as camptocormics and considered as functional cases that, in reality were cases of lumbar arthritis, as might have been determined by clinical examination and especially by radiography. In these cases, the vertebral lesions were decidedly organic in nature.

By Way of Summary

Résumé: Lumbar arthritis is a chronic rheumatism, localized in the lumbar region and not ordinarily accompanied by rheumatism of the limbs. It is characterized clinically by a more or less painful curvature of the trunk, with or without flexion of the hips, projection of the line of the lumbar spinous apophyses and sometimes of the entire lumbar region. Com-

monly, spontaneous correction is impossible, flexion-motions of the body are limited. Passive correction is usually complete in the horizontal posture. There is little or no immobilization of the vertebral and perivertebral contraction; no or little amyotrophy.

Radiographically there is a sinking, a transparency, and especially an excessive grooving of the vertebral bodies with enlargement of the superior and inferior surfaces (vertebræ "en diabolo"), sometimes a tapering of the surfaces and a sort of "parrot beak that is quite characteristic; sometimes more or less voluminous nodules of neo-ossification; a thickening of the cartilages and an abnormal undulation of the vertebral borders.

Anatomically, there is osteophytic proliferation, often crown-shaped.

This affection is particularly frequent in soldiers in the trenches, even in the young; because of the dampness and the overexertion to which especially the dorsolumbar region is subjected; however, it is not limited to soldiers. Its course is by exacerbations lasting several months, each one of which may terminate in apparent cure.

It does not seem to differ from most curvatures and "camptocormias" of non-traumatic origin, and probably it also is a frequent form of camptocormias that appear to have a relative trauma, direct or indirect, for causes which may be occasional or determining, and more or less immediate. It appears to be the origin of a certain number of cases of sciatica.

Salicylate of sodium and immobilization seem, so far, to constitute the treatment of selection. This affection and its mode of evolution are particularly useful to know and appreciate with reference to medico-military decisions.

The Pathognomic Characteristics of the Three Types of Pain in Abdominal Disease

By G. J. WARNSHUIS, M. D., Forman, North Dakota

EDITORIAL COMMENT.—Abdominal pain, with some people, and often with some physicians, means usually appendicitis. That this one-sided view is mistaken and may lead to serious errors, not only of diagnosis but of treatment, is shown well in Doctor Warnshuis' interesting discussion of abdominal pain. We have here an inquiry which is all the more useful for our purpose as it is presented by a general practitioner engaged in the active practice of medicine. It is not a theoretical disquisition; it is based on actual clinical observations and on a careful study thereof. We congratulate ourselves and our readers on being able to present this remarkable paper to them.

THE broader our conceptions and the wider our understanding of basic principles governing the activity of both, the lower and more highly organized forms of life, in their reactions to their environments; the more carefully we have built up and repeatedly examined these conceptions as we analyze new experiences and information; the greater will be our ability to correct the individual instances of disease that we encounter from day to day. I trust, the reader will not be dismayed by this somewhat involved and perhaps awkward statement of the ideal of modern medical education and the attitude of mind in which the practitioner should approach his work. It is, however, quite pertinent and a necessary preface to the subject about to be discussed. A great many of the short-comings and indifferent results of our colleagues may be attributed to a lack of perspective, an inability to weigh all the signs and symptoms in a case in all their significance, to recognize what is important and what is unimportant.

You recall the Red King, in Alice in Wonderland, when in the course of a hearing he asked a certain remark to be repeated. "That is important," he said.

"I think, your Majesty means unimportant," said the clerk.

"Important, unimportant," repeated the King to himself over and over, as if weighing each word to decide which had the proper sound. "Yes, I believe you are right," he finally agreed. "Put down unimportant."

What is Important?

That may not be the story exactly, but the point is there. How often have we seen a doctor taking a history in an obscure case and perhaps pass over some little detail which, if scrutinized more fully, might give him just the clue he needs. Perhaps the patient comes in complaining of a pain in the side. He mentions

that he had a cold two weeks ago. The statement may even appear in the past history. One of these thorough histories, you know, tells all about the color of the hair, the length of the upper lip, the negative Babinski, and all that. Nevertheless, it is very likely that no attempt has been made to discover whether the present pain in the side has any relation to the onset of the cold. Such errors are due not so much to a lack of knowledge or to poor perceptions as rather to a defect in the critical faculty. The difficulty in teaching men to exercise this power arises because the development of it depends largely on the kind of brains the individual is originally endowed with. A friend of the great Agassiz tells the story of the naturalist's remarkable power of observation. He says, he was one time out for a walk with him and he was impressed by the great variety of birds that Agassiz pointed out to him as they strolled along. He remarked that it struck him as a queer circumstance that he had never observed so many when walking alone. "You have to see them first within the mind," replied the naturalist. A man observes the things he thinks about and, in these days of short skirts, it is not difficult to discover the trend of most men's thoughts.

I recall a certain professor of my school days who, to test the powers of observation of his class, asked them all to write down the letters that were inscribed in the stone arch over the entrance to the building. We had all seen these letters and observed that certain ones had broken off, but none of us were able to recall which they were. This, of course, was quite natural, as none of us had ever had enough curiosity to consider what the exact relationships were, and the ability to recall an impression unassociated with other ideas is extremely limited. The test was not so much one of observation as of curiosity, and, hence, a very poor one, as anyone manifesting sufficient curiosity to have speculated on the condition of those letters must have had an idle fancy, indeed. The man who observes the greatest number of significant details about his patient will not be the one who inanely notes shape, color, and size but who has thought deeply about each perception he receives and who carries with him a large store of associated facts for comparison.

Of Specialists

All this may appear like a digression but, if you will follow me a little farther, you will see what I am getting to. Sir James MacKenzie has pointed out very clearly the defects of overspecialization and the indifferent study of symptoms that it leads to. The fault lies not in the practice of specializing, which is a very splendid and necessary part of medical practice, but in the fact that the demand for specialists has become so great that there are not enough men with brains big enough to fill the position. It takes a lot of brains to be a good general practitioner and, the better he is, the more he realizes his shortcomings. It takes more brains to be a *good* specialist. One has no right to call himself a specialist unless he is as well versed as any general practitioner in the normal and abnormal functioning of the human organism, in the recognition of morbid conditions in their incipiency as well as their final stages and the remote effects of such changes. If he is not that, he is a pseudo-specialist; his specialty is an admission of ignorance of everything outside it. A heart specialist who knows nothing but murmurs and electrocardiograms and who fails to see the connection between a murmur and renal excretion or constipation or a gastric ulcer or whatever it may be, a surgeon who thinks of disease only in terms of the lesions he discovers on the operating table, a gynecologist who can not see the connection between a retroflexed uterus and a pendulous breast—mountebanks substituting cystoscopes, x-rays, atomizers, and all sorts of contrivances for intelligence and years of study.

Careful Study Needed

When we consider that the disturbances of function in an organ are more often due to lesions outside that organ than in the organ itself (particularly in the earlier stages of disease), it must be admitted that there are very great limitations to the practice of a specialty without a thorough understanding of the physiological and pathological conditions that affect the entire body, and in this sense no disease may be considered as purely local. The surgeon or specialist who does not base his study of his cases on a broad experience with individuals in all stages of health and disease, on years of critical analysis of a great variety of complaints and disorders, is apt to become a mere empiricist in his reasoning, to think by analogy and contingency rather than by deduction. He loves statistics, tables of comparative frequency of such and such symptoms. He can not generalize except in this simple comparative way, he can not group his clinical data according to their relation to underlying causes, he can not ascertain the degree of functional disorder in an organ by its effects on other organs or its behavior under different conditions, but must rely on the correspondence of the symptoms and signs to certain tabulations

and technical descriptions he has memorized. With what solemnity we hear some of these celebrities, these "quick-Watson-the-knife" boys, propounding how in such and such a series of 569 cases they found a certain sign present in 67.3 percent. Perhaps a simple analysis of about two cases would have shown them the factor responsible for the sign and indicated the frequency with which it could have been anticipated. Such rule-of-thumb methods can not develop diagnostic skill, regardless of how much they may be bolstered up by a hocus-pocus combination of test-tubes and burettes and other dazzling paraphernalia. Only the application of the same careful scrutiny and deduction to clinical manifestations, as it is exercised in the laboratory, can produce this facility.

Causes of Abdominal Pain

We come now to the point of this preamble. Let us apply this kind of study to the consideration of abdominal disease. Let us imagine that a patient presents himself complaining of pain in this region. Right away, our pseudo-specialist brings up visions of ulcers, gallstones, pus cavities, curled-up appendices, hydropic kidneys. Not so fast, I say. Stand back a little, you can not see the forest for the trees. What do you know about pain anyway? The first thought that should be suggested by this complaint is, that a nerve is being irritated somewhere in its course. Before we consider where, let us ask how. Physiologically, there are five agencies: heat and cold, pressure, chemical irritants, electricity. Under ordinary internal conditions, we can reduce these to heat and pressure. Intra-abdominal changes of heat and pressure fall into three groups: inflammation, tumor, muscular spasm. Tumor may be produced by distention of a viscus or by a new growth.

Assuming such a pathological classification, is it possible to distinguish clinically which of these three morbid conditions is the cause of the pain? It is certainly not very difficult for us to recognize the difference in our subjective sensations when the nerve endings in the skin of the hand are being stimulated by juxtaposition to a hot iron or when such stimulation comes from the weight of a brick resting on the hand. Thus, in so far as the external surface of the body is concerned, we observe that pain is not only the sensation which enables the individual to detect the presence of a noxious element and its more or less precise location, but the quality of this sensation also warns him of the nature of the disturbing agent. If we accept this faculty as a part of the universal principle of adaptation, "the adjustment of internal conditions to external relations," by which self-preservation becomes effective, then it would seem equally necessary and important that such perceptions should be developed to the same critical degree in regard to disturbance of the internal organs. An experiment by Sherrington described in his lectures on the "Integrative Action of The Nervous System" is sufficient to illustrate how well justified such an *a priori* conclusion is. He refers to a blood-pressure tracing of an anesthetized cat which shows that, while no change could be produced by cutting or pinching the gall-bladder, there was an immediate and marked fall when it was distended with fluid.

Clinically, experience has shown that there are a number of definite characteristics by which we can differentiate which of these three conditions (*spasm, tumor, inflammation*) is or are responsible for the pain complained of.

Pain Due to Muscular Spasm

The pain produced by muscular spasm differs from the other two types, first of all, by its intermittent quality. A little reflection on the variability of muscular contractility would tell us that this must be true even if we had never observed the clinical conditions in which these painful contractions occur. A second feature of the pain produced in this manner is its indefinite and often-times variable location. For example, the pain of uterine contractions may be felt in the supra-pubic region or in the back or in either inguinal region, regardless of the position of the uterus. In several cases of labor I have attended, the pains were confined entirely to the back even during the expulsive stage. A third characteristic is, that there is no associated tenderness unless there is a co-existing inflammation or traumatism. To have a condition of tenderness, it would seem that actual injury to the nerve must exist in order to produce the hyperexcitable state called tenderness.

This kind of pain is well illustrated in the following case exhibiting Dietl's crisis. The patient was a woman, 36 years of age. Illness began suddenly with an intense pain in the lower right abdomen (what the surgeons like to call the appendiceal region) with nausea and vomiting, faintness and acceleration of the pulse. As the pain was intermittent and colicky, there were all the indications of a muscular spasm; but the fact that the pain remained so well localized still left a possibility of an associated inflammation. There were none of

the other characteristics of the pain of inflammation, however, and, in addition to this, the temperature was below normal, and there was a history of the appendix having been removed. The only two conditions that occur to me that could produce a muscular spasm in this region are, renal calculus and intestinal obstruction. I should perhaps include ectopic pregnancy, but the history in this case readily eliminated that. Now, the clear, mucous character of the vomitus, the absence of a palpable tumor, rigidity or distention of the abdomen did away with the idea of intestinal obstruction and, with a history of urinary disturbances, I decided that this must be a case of renal calculus. A hypodermic of morphine relieved the pain, and there has been no reoccurrence for several weeks. This was a second attack in three months. An interesting feature of this case, which is very important in our differentiation of these three types of abdominal pain, was the entire absence of tenderness regardless of all the palpation I exercised, deep palmar and finger-point, bimanual, lumbar, and abdominal, in spite of the extreme severity of the pain.

This absence of tenderness, in pain of purely spasmodic origin, is well demonstrated by the pains of labor during which the heaviest kind of pressure over the fundus fails to elicit any tenderness. It is true that patients may complain of pain when such counterpressure is exerted, but this pain is caused by the increased force of contraction and the pressure on the os uteri and not because of any tenderness in the contracting fundus.

Pain of Inflammation

In sharp contrast to the pain of muscular contraction, the pain of inflammation is characterized chiefly by its continuous, unremitting nature, and a steady degree of intensity. The pain of a toothache may not be so bad to endure for a little while; but, when it goes on unrelenting, minute by minute, hour after hour, the victim is ready to suffer even the agony of the dental chair to be rid of it. It is likely to have more of a burning, cutting quality than the other two types of pain. It is always precisely localized and the location does not shift. It may be referred to the region directly overlying the inflammatory focus or to some nearby point, but there is always a definite relationship between the referred point and the focus, the relationship being governed, as is well known, by the nerve distribution and the spinal-cord connections of the area involved. If muscular tissues are affected, it is likely to radiate in the direction of adjoining nerve fibers whenever a contraction occurs on account of the sympathetic excitement of nearby nerve cells from the exaggerated sensory impulses coming from the hyperexcitable nerve fibers of the inflamed part. Tenderness over the involved organ is always associated with this kind of pain and is definitely localized, often precisely localized.

I shall briefly describe a case of acute, rapidly fulminating appendicitis that we were obliged to diagnose entirely by the nature of the pain. A man, about 40 years of age, well nourished, of large build, was taken at midnight with an intense pain in the lower right abdomen. He called his family physician, who administered ¼ grain of morphine hypodermically, but without relief. There was no nausea, no vomiting, no fever, only this intense, burning, continuous pain referred to the right inguinal region and a tenderness over the appendix. At 5 a.m., he was brought to the hospital and an immediate operation disclosed a large, gangrenous appendix with beginning abscess formation. The non-radiating, non-spasmodic nature of the pain served to eliminate ureteral calculus in this case.

Unless one has carefully studied the differential characteristics of pain of inflammatory origin from pain due to other causes, he is likely to conclude from such cases that any pain in the right side justifies operation, and it is largely for this reason that I have chosen three cases to illustrate the characteristics of these three types of pain in each of which cases the pain was referred to this same region.

Pressure Pain

The pain produced by tumor and distention of a hollow viscus is recognized largely by its freedom from the spasmodic quality of the first type and the absence of associated tenderness and the precise localization that we find with inflammation. It is a sensation produced by continued, steady pressure, a dull ache or a feeling of weight rather than the piercing, burning soreness of a torn, hot nerve fiber. This description, I freely admit, scarcely applies to the excruciating paroxysms of pain experienced with a distended gall-bladder or the colicky spasms of a gas-distended colon. If, however, we persevere in the physiological interpretation of these sensations, we shall agree that the sensations referred to in these instances are produced by the muscular contractions brought about by the tension stimulus and are not the subjective impressions associated with fullness and chronic enlargement.

One of the best examples I can recall of a case describing this kind of pain in a very characteristic way was that of a concrete-bridge builder. This man consulted me several years

ago for relief of what he concluded was an attack of lumbago. He complained of a backache, a soreness felt low down on the right side of the back, placing his hand above the crest of the ilium when describing its location. The pain was constant, but not so severe when reclining. It frequently became so distressing, when he was at work, that he was unable to do much more than supervise his construction gang. The pain would extend outward and into the groin when severe. It was not intensified with sudden change of position, as is the case in a rheumatic periarthritis. Jolting would produce a pain in the lumbar region. There was no history of colic. Examination readily revealed a floating kidney with associated enteroptosis. The patient was fitted with an abdominal supporter and there was no recurrence of the pain in the four years subsequent, in which I was able to observe him.

I attributed the abdominal relaxation in this case to an operation for appendicitis about a year previous to the onset of pain in the back, a much too frequent sequel to laparotomies.

Bearing on Diagnosis

The above case, together with the other two already referred to, illustrates not only the peculiar characteristics of the pain in these three forms of physiological disturbances, but they also demonstrate the value of applying the principles of physiology in the diagnosis as well as the treatment of disease. While the subjective impressions produced in the many forms of organic disease are not always limited to one of these classes and, in addition, an accurate description frequently can not be obtained, nevertheless, there are numerous conditions in which a careful analysis of them may be a great aid in diagnosis, particularly in differentiating the incipient and milder lesions.

For example, in the milder cases of appendicitis, peptic ulcer, cholecystitis, and renal disease, it is not always easy to determine whether the disturbances of gastrointestinal peristalsis and digestion are produced by the reflex irritation from one of these lesions or are purely functional disorders brought on by faulty hygiene and debilitating causes outside of the abdominal organs. In any of these disorders, the patient may complain of pain and, in the case of the latter class, the pain may even appear to be localized with more or less definiteness in the regions commonly ascribed to the inflammatory lesions of the first class. Frequently, the hyperacidity and retention of gastric contents caused by chronic constipation or reverse peristalsis of nervous origin may give rise to epigastric pain similar to that experienced with peptic ulcer, particularly in its periodicity and location.

I can recall at least one patient with this complaint who had been repeatedly advised by a surgeon of long experience to undergo an operation. The pain was more characteristic of distention and muscular spasm, however, than of inflammation, and the tenderness was more of the protopathic than the epicritic variety. Treatment directed toward regular evacuation of the bowels and correction of habits producing excessive fatigue and nervous strain gave him complete relief from his "ulcer" and he remained well during the following three years that I was able to keep in touch with him.

For Instance, Take Gastric Ulcer

We, likewise, encounter many instances of such epigastric pain in the functional disorders arising from chronic appendicitis and enteroptosis. The pain produced by gastric distention and hypertonicity arising from such causes outside the stomach is frequently confused with the distressing symptoms complained of in gastric ulcer. This confusion is brought about because of the failure to recognize that, although the painful distention and hypertonicity are a very frequent condition in gastric ulcer, they are due to associated conditions found in the etiology of peptic ulcer.

An element that makes it still more difficult to differentiate this kind of pain from the very characteristic inflammatory pain of gastric ulcer is its frequent close association in periodicity to the ingestion of food, as I have already indicated. The very typical characteristics of the inflammatory pain in peptic ulcer have been so frequently described that we need not dwell on them here, but consideration of them will demonstrate how closely they correspond to the qualities of pain of inflammatory lesions of any organ as I have described it. To be sure, the question has been raised as to the exact source of pain in peptic ulcer, and some have held that the pain does not arise from direct irritation of the ulcer itself but is caused by the muscular contractions during peristalsis. Experimental evidence indicates that the gastrointestinal mucosa is not sensitive to traumatic irritation, and an inflammatory pain is not produced unless the peritoneum is involved. This, however, does not conflict with our conception of the nature of the pain in these organic lesions, because it is doubtful whether such an ulcer can exist without involving the overlying peritoneum. Until it has been demonstrated that such an ulcer can cause symptoms without involving the deeper structures of the intestinal wall, we must accept the conclusion from clini-

cal experience that the pain of peptic ulcer corresponds to the characteristics of inflammatory pain elsewhere. It is well, therefore, to call attention to one of the characteristics of this kind of pain that we must look for in this disease and that is, its constant, non-intermittent nature. While, the pain usually becomes more intense with peristalsis and the flow of hydrochloric acid following food ingestion or immediately before eating, this pain never completely disappears in a true peptic ulcer, and an associated, precisely located tenderness can also be elicited.

To Summarize

The careful consideration of a single symptom in all its significance is of more value in the diagnosis of a case than the elaborate list of meaningless items that many case histories consist of.

No one is justified in setting himself up as an authority in any specialty who has not spent a period of years in the careful study of individuals in all states of health and disease. Instead of assuming an air of supercilious superiority toward the general practitioner, the true specialist will look back with grateful appreciation of what he has learned in the general practice of medicine.

The consideration of the pain in abdominal disease from a physiological standpoint leads us to divide these sensations into three classes according to the mechanism of its production.

These classes are, (1) pain produced by muscular spasm, (2) pain produced by tumor or distention, (3) pain produced by an inflammatory lesion.

Three cases are cited, one from each of these classes, to show how the diagnosis was determined by a study of the qualities of the pain.

The functional disturbances of the gastrointestinal tract which are frequently confused with inflammatory diseases presenting similar symptoms may be differentiated by a discriminating study of the kind of pain that is complained of.

In conclusion, in place of the classic forms and descriptions of abdominal disease, we exhort the clinician to carry foremost in his mind's eye these three words, SPASM, TUMOR, INFLAMMATION.

The Treatment of Inflamed Inguinal Glands

With Parenteral Protein-Substance and Acriflavine

By O. AHLSWEDE, M. D., M. R. C. S., L. R. C. P., London and Hamburg.

THE treatment of inflammatory swellings of the inguinal glands, subsequent upon infection with gonococci or occurring in consequence of ulcus molle, consisted, in the past, mainly in diverse compresses and in incision into the abscess as soon as this had become walled off. The results were not satisfactory because, all too frequently, fistulæ persisted and disfiguring cicatrixes were formed.

A progress may be noted in the injection of antiseptic solutions or emulsions, which were made as much as possible from the healthy tissue into the infiltration. Among the remedies utilized in this way, the most acceptable has proved to be iodoform suspended in pure glycerin. With this treatment, it is possible, in most cases, to bring about rapid healing of the abscess without fistula formation.

However, the desideratum of an early suppuration of abscess formation is not yet afforded with this treatment. There is no possibility of destroying pathogenic germs of any kind whatever which may be lying in the tissues through direct application of chemical remedies, without injuring the tissues at the same time. All agents that apparently act in this manner do so indirectly by stimulating the natural resistance of the body. It is very probable, therefore, that iodoform-glycerin also acts by protoplasmic activation in the sense of parenteral protein-body therapy and this in addition to its undoubted antiseptic effect.

At any rate, the pain which this method causes is so great that it appears far more important to prevent the formation of an abscess and to remove the acute and painful inflammatory manifestations at the beginning.

Increase Cell Resistance

In order to bring this about, it is necessary to employ remedies that are capable of increasing the natural defensive reactions of the tissue cells. In both, gonorrhea and ulcus molle, the polymorphonuclear leucocytes are important sources of immune substances and also as phagocytes. The cells of the inflammatory granulation tissue also, as well as plasma cells, mast cells, and so forth, must be considered as important producers of antitoxins.

In order to stimulate the leucocyte content of the blood, remedies must be employed that exert a stimulating effect upon the bone marrow. Of such methods, two have proved their

excellence, namely, raying the body with a mixture of light-rays with long and short waves, and the parenteral injection of protein substances. The light-treatments (Alpine sun lamp, Mebolith lamp, etc.) act by stimulating the deeper epithelial layers of the skin (germ epithelium). These produce their special secretions in greater quantity and the secretion products of the skin stand in peculiar mutual relation with the cells of the bone marrow. After raying with quartz light, the leucopoietic and also the erythropoietic systems are stimulated to an increased new-formation of cells.

Still, the effect of these rayings is too little intensive and not adapted for the treatment of acute affections. A better effect is obtained from the parenteral injection of protein substances of varying physico-chemical structure which have recently been studied closely. It is striking how markedly intensive is the reaction, especially of the bone marrow, to such injections. After but a few treatments, as has been shown especially by Mueller,[1] the number of leucocytes in the blood increases enormously, usually with a simultaneous increase of the erythrocytes. The blood picture affords an excellent guide for the satisfactory degree of the desired reaction.

Injection of Milk Protein

Such an increase of leucocytes in the blood is very desirable in treating inflammatory swellings of the inguinal glands. Indeed, it is quite possible to influence inflammatory buboes rapidly and surely by parenteral protein-substance therapy. The course of events commonly observed after such an injection is as follows: After from three to six hours, an increased inflammatory irritation of the affected lymph gland and the surrounding connective tissue is noted which is manifested naturally in greater tension and sensitiveness. Sometimes, but by no means always, there occurs an increase of the body temperature. These symptoms, which are disagreeable for the patient, diminish after a short time, being followed by a pleasant absence of pain. In this manner, it is frequently possible even with one injection (10 Cc.) of milk protein to bring about healing in markedly inflammatory buboes without the occurrence of suppuration. If the latter has already commenced, it is, of course, not possible to bring about its retrogression. However, the abscess formation will be carried to a conclusion far more rapidly. The purulent content of the abscess cavity becomes liquified promptly and can easily be aspirated with a large-caliber needle.

According to the exact investigations of Antoni,[2] the contents of these suppurating buboes consist mainly of polymorphonuclear leucocytes. In addition, there are tissue débris of all kinds, red blood corpuscles, usually in great number, and also very many greatly degenerated leucocytes. The contents are mostly almost entirely free from germs. Those bacteria that are present show marked signs of degeneration (bulb form, drop form). These permit the conclusion that an intensively deleterious effect has been exerted upon these germs.

After the abscess has been incised and the pus removed, it is necessary to cause the walls of the abscess (consisting of necrotic tissue) to liquify and to stimulate the formation of vigorous granulation tissue. Until now, it was customary to fill the abscess cavity with a strongly disinfecting solution or emulsion. The agent most frequently used for this purpose was iodoform-glycerin. However, the pain caused by these injections is sufficiently well known and it is of importance to bring about a lessening of the pain.

Acriflavine

Recently, a remedy has come to our knowledge, experiences with which promise a valuable addition to our armamentarium. Acriflavine is an acridine-dye which has the advantage of being soluble in water and also in alcohol. According to the investigations of Langer,[3] the bactericidal effect of the acridine-dyes is enormous. *In vitro,* a solution of 1:5000 becomes entirely sterile after only three to five minutes. This rapid effect is attained by no other disinfectant. Even in a dilution of 1:320,000, acriflavine kills staphylococci with certainty. In addition to this enormous bactericidal effect, the relative non-toxicity of this remedy constitutes a remarkable advantage. Langer has shown that an undiluted acriflavine, placed on the conjunctival mucosa of a rabbit, produces only a transitory redness. Intravenously, also, rabbits tolerated 0.007 kilograms per kilogram body weight. Accordingly, a concentration of 1:10,000 is attained in the blood, which is thirty times the effective dose. This slight toxicity to the tissue cells makes it possible to employ the remedy widely. Large parts of the skin may be painted with it without fear of producing toxic symptoms. For irrigation and local application to the very sensitive urethral and pharyngeal mucous membranes, acriflavine may be employed with decided success.

In addition to this strong disinfectant effect, there is observed a stimulation of copious granulation tissue. In this respect, acriflavine is comparable to scarlet red, except that it does

not produce the irritation which frequently follows after the administration of the scarlet red. It is easy to note how the necrotic tissue is promptly liquified, while fresh red granulations appear under it. On account of this non-irritating action, acriflavine is indicated in extensive intertrigo, a condition in which it is important to secure a rapidly drying effect and also a prompt restoration of the epidermis. The suppurating, weeping eczema of the skin that appears frequently in perforating abscesses of the inguinal lymph glands is healed promptly by moist compresses with solutions of acriflavine, 1:4000. In order to prevent the extension of purulent inflammations upon adjoining portions of the skin, it is sufficient to paint the skin with a 2-percent acriflavine-alcohol.

The treatment of an abscess of suppurating inguinal lymph glands, after incision and removal of the pus, is done in such a manner that the abscess cavity is irrigated with aqueous solutions of 1:1000 acriflavine. This is done best under pressure, in order to force the solution (which is not at all toxic) into all cavities and folds of the necrotic tissue. When this has been accomplished, the cavity may suitably be swabbed out with acriflavine tampons. This, though, is usually impossible because of the extreme sensitiveness of the suppurating inguinal lymph glands.

Since acriflavine does not produce precipitate or enter into combination with protein substances, it may be employed for injection into the tissue. Such treatment makes it possible to abort an abscess similarly as it may be done through parenteral injection of protein substances. It is best to inject weak solutions (about 0.02 to 0.1 percent) through the healthy tissue into the center of the inflammatory infiltration. It is very probable that here acriflavine acts in the sense of Weichardt's "protoplasma activation." Without liquifying necrosed tissue, there is produced an intensive new-formation of inflammatory granulation tissue and the affected inguinal gland node soon retrogresses to its normal size and structure.

Passive Hyperemia

Since it is possible to influence an extensive inflammation by producing hyperemia, attempts have been made for a long time to bring about passive hyperemia by cupping or by means of suction treatment, according to Bier. Unfortunately, this therapy alone has not been able to register sufficient results. More recently, it has been abandoned, more or less, in view of the fact that the method is cumbersome in daily practice and requires much time. As a substitute for hyperemia, simple raying with the well-known therapeutic lamp (200 volt) may be employed. This lamp consisting mainly of an electric bulb with blue glass, it produces a sufficiently marked passive hyperemia.

Plan of Treatment

As a summary of what has been said, the method of treatment may be described briefly as follows:

First day. Intramuscular injection of 10 to 6 Cc. of milk protein and simultaneous painting of the affected lymphnode and the surrounding skin with an acriflavine solution of 1:2000.

Second day. Injection into the infiltration of about 2 Cc. of acriflavine solution, 0.1 to 0.2 percent in strength, painting the skin as the day before.

Third day. Injection of 5 Cc. of milk protein; painting the skin.

Fourth and fifth days. Injection of 1 to 2 Cc. of acriflavine 0.1 percent; painting the skin.

On each day, in addition, the region is rayed with the blue therapeutic lamp which is held at a distance of fifteen centimeters (5 inches). The treatment is continued at first for ten minutes and, later, the time is prolonged to twenty or twenty-five minutes.

If it is not possible in this manner to abort the abscess, the milk protein injections are repeated every second or third day and the purulent content of the abscess is aspirated with a large-caliber needle. If the pus is too thick, a small incision may be made. Then the abscess cavity is irrigated with acriflavine solution, 1:5000, or it is swabbed out and a tampon may be applied for one day.

In addition to this surgical treatment, it is well to administer further injections of milk protein, because these will stimulate the energetic formation of granulation tissue.

Literature

1. Mueller. Die myeloische Wirkung der Milchinjektion. *Med. Klin.* 1918.
2. Antoni. Die Aolanbehandiung des weichen Schankers und entzuendlicher Bubonen. *Mueneh. med. Woch.* 1919.
3. Langer. Klinische Erfahrungen mit Flavicid. *Deut. med. Woch.* 1920.

Memoirs of the World War

By GUSTAVUS M. BLECH, M. D., Chicago, Illinois.

[*Continued from January issue, p. 47*]

CHAPTER IX.

Demobilization

THE last patient was evacuated June 1. The nurses were ordered to a nearby camp preparatory to transportation home. To save the Government rental, I formally transferred the hospital to the French authorities on the last day of May. Orders came for us to go to the embarkation camp near Bordeaux, June 10. In the interval, we sent all scientific records and moneys of the hospital fund to the Chief Surgeon at Tours. All other records were being packed up in boxes to be taken to the United States.

Lt. Harold Morgan, our medical-supply officer, and a small detail began the huge task of checking and listing every article of equipment to be taken over by the French authorities, a job which would last fully six weeks. Instruments and other scientific articles were sent to our own depots.

The first step of demobilization, namely our stay in an embarkation camp as a preparatory measure, pleased neither officers nor men. We had demobilized thousands and thousands of patients, we had deloused them, paid, equipped and transported them to the steamers. All arrived in the United States in good condition. Not a complaint reached me. I was proud of that record as a "demobilizer," and I somehow felt that, to compel us to go through a mere routine, absolutely essential for troops from the front or from camps but one which we were perhaps better equipped to carry out than the embarkation officials, was almost tantamount to a doubt in our honesty and integrity.

I saw everybody concerned. All were agreed that I was right, and, for a while, it looked as if we were to do all the preparatory work right on our grounds and march direct to the boat—but, at the very last, some official balked and, embarkation camp it was.

June 10. Personal baggage of officers was sent away by trucks. The officers formed as a detachment, the enlisted men as a body on the left of the officers. Roll call revealed that none were absent. We marched away through a side gate into a side street, reached the town, crossed the river, and entered the road for camp.

A man in the uniform of a Knights of Columbus worker came up to me and informed me that at the end of the road my command could secure refreshments. I accepted the invitation with thanks. In front of an empty stable, a table was put up. Here, hot coffee, cakes, cigarettes, tobacco, pipes, chocolate, gum and "goodies" were handed out. The three K. C. workers toiled hard, the sweat pouring down their cheeks. I asked permission to have a few of my men relieve them; they accepted reluctantly. After all had been taken care of, we proceeded and reached the camp on schedule time. I remained long enough to see the men sent to barracks. They were to go through the "mill" (a bathing-delousing establishment) that very afternoon. The officers were placed in rough shacks, equipped with beds and straw sacks, the covering of which had not seen soap and water for many a day or week.

Farewells

I left for Bordeaux in an automobile which had been placed at my disposal, and, after much searching, found a small room in a second-class hotel. It was nevertheless much better and cleaner than the camp. I made daily trips to camp to sign the official papers, all of which were the very same routine with which we were thoroughly familiar. In Bordeaux, I visited headquarters and bade my friends farewell. I visited the French chief surgeon. He expressed his regret at my leaving so soon, for, if I could remain a little longer, he would have the joy of thumping my shoulders with his sword, as the French government had conferred upon me the Knighthood of the Legion of Honor. I thanked him for his kindness and expressed the promise that, when the cross would be pinned to my breast, in the States, I would think he was doing it. Adieu et au revoir!

Embarkation

June 13, the personnel of Base Hospital 208 and two or three minor organizations were formed and we marched five or six miles to the wharf. As we entered the huge hall adjoining the landing, a French military band was playing popular airs. There was also an American military band playing alternately with the French band. Of course, there was a program of rag time.

Officers and men, arranged in alphabetical order, passed by little booths, where they were checked, and boarded the Alfonso XIII, a little Spanish Transatlantic steamer. I had a

splendid cabin with two of my officers. The men's quarters were very good, too. The French band, now facing the boat, struck up the 'Star Spangled Banner.' Every hand came up in salute. The 'Marseillaise' followed, and again every hand on ship or wharf came up in salute. The program was over.

On board ship, were also fifty of our nurses, but I had no official relation to them any longer. There were some papers to be signed every day. Officers below the rank of major sent to my cabin their record books for a testimonial. The majority were recommended for promotion. In only one instance, did I have to state that the officer was not imbued with the proper spirit. I hesitated for some time; but, in official matters, one must assume an absolutely impersonal attitude. In my opinion, that man had a moral defect which made him untrustworthy. Perhaps, I should have said a weakness; but, it was a weakness which is dangerous in the army. The man could not always resist the temptation to deviate from the truth. As long as he lied about himself, oh, well—human vanity, I said to myself. But, an official lie, to me at least, is an incomprehensible thing.

Occupations on Board Ship

The monotony of even a pleasant ocean voyage has always been dreaded by me. Try as I might, to read and write, I did not succeed. There were some chess players on board, and they proved excellent diversion. Dances were arranged, but I am not fond of this form of amusement.

Colonel Coburn was on board, and he and I spent many a pleasant hour talking over several military problems. Under orders, all officers and enlisted men were to be inspected twice for disease and lice. The older and more dignified medical officers examined each other.

On board ship, were about fifty general prisoners. They afforded me an opportunity for psychologic study. I selected a few men who bore no earmarks of degeneracy (years ago, I studied Lombroso's doctrine) and talked with them. One man, in answer to my question what he was in for, said "murder."

"You do not mean to tell me you committed murder?"

"No, Colonel, my gun went off accidentally and there was a man in front of it—but they won't believe me."

Another was in for burglary. He, too, was not guilty, he had been merely drinking and followed another burglar subconsciously.

One fellow, a big husky specimen, was taken aside for a private talk.

"I want the truth—what are you in for?"

He did not understand my meaning and answered "Five years. I am to go to Leavenworth."

"What for?"

"I hit an officer?"

"Why did you hit him?"

"You would not understand me, Colonel. I am guilty, though."

"Yes, yes, tell me all about it. If you tell the truth, the absolute truth, I might be able to do something for you."

"Well, Colonel, I am human. The lieutenant called me vile names, abused me, threatened me again and again. I thought I would go insane. One day, he went at it again. I must have lost my reason. I deliberately gave him a terrific blow. He fell to the ground."

I had worse men than he to deal with. I often spoke to the men sharply. Sometimes, I would send them to my office. There, I made them sit down and we had talks on manhood, honor, discipline; and, unless a man was a habitual criminal, I always succeeded in making good soldiers out of them. I had a reputation of being a harsh man, until the individuals came to know me; then they would have gone through hell for me and with me. True, the soldier had no right to strike a nonentity in uniform, it was a serious, very serious offense under military law. I recollect, I sent a soldier to prison for telling an officer: "I'll obey no ——— of an officer or anybody else," for a long term. But, there had been no provocation on the part of the officer. It was merely a case of a rough character, who thought he could speak to his lieutenant as he probably had spoken to his foreman. We were then in the making of an army and, had we let that man go, we would have committed a serious offense ourselves—we would have done something to undermine discipline. Here was an entirely different case. It is the lieutenant who should have been punished. However, he was probably "showing off" at his station, still an "officer and gentleman."

Reaching New York

We reached New York Harbor on the afternoon of June 22nd. Army medical officers came on board and examined the casual officers, that is to say, those officers who traveled without troops. These would leave the ship when it docked, report at the port debarkation office, secure twenty-four hours' leave, and, after that, go to some post for duty, if they were regulars, or to some camp for final discharge. Or-

ganizations would be sent to Camp Merritt without stopping in New York. The boat would not proceed to the pier until the next forenoon. I looked at the coast. If I am not mistaken, I recognized Fort Hamilton. I could have reached it by swimming, but I had to content myself with beholding my country from the ship.

The next morning, a boat with the "Mayor's Reception Committee" came along side. A brass band entertained us with the patriotic air: "Nobody knows how dry I am." My friend, Captain Lesser, recognized on board his father and mother, and his eyes became moist. They threw newspapers at us. What a sensation to be able to read an American paper of today's events, not of what transpired three weeks ago!

We reached the pier about noon. The nurses left in a body for a rendezvous in New York. The casuals disappeared. My unit marched to the pier. Salvation Army workers came to us and handed out telegraph blanks for free delivery. I sent one to my wife. Finally, the order came to march. We went to the pier one flight below. Red Cross women handed us hot coffee, buns, ice-cream. Hesitatingly, I asked a young society woman, for such most of them appeared to be, for another cup of coffee. I could have as much as I liked. We marched to the ferry. On the way, representatives of benevolent societies handed out cigarettes, chocolate. The Jewish Welfare Board people had the sensible idea of distributing handkerchiefs. It was hot enough for that.

Again we crossed the river. There were few handkerchiefs waved at us from passing boats. Most passengers on the boats continued to read their newspapers and paid no attention to us. An officer standing near commented on the indifference of the people and compared it with the enthusiasm demonstrated when the troops first left for France.

"A fine subject for a cartoon to be entitled: 'Before and After'" was my reply.

The ferry arrived, and we disembarked. Base Hospital 208 led the procession under command of Captain Rapuzzi. Other, smaller organizations followed. My officers and I walked leisurely in a separate column. Suddenly, I noticed that the column of troops was broken. A traffic policeman had halted a section and allowed an endless number of motor vehicles to pass. Had he waited only a few minutes longer, the entire column would have passed the crossing. I motioned the policeman to come near me and told him that U. S. troops must not be halted except in an extreme emergency.

"All right, Captain; beg pardon!" he replied. It was a good thing my shoulders were not burdened with the single star of a brigadier general, for, that well-posted police officer would have "elevated" me to the rank of lieutenant.

Newspapers, magazines, folders of commercial houses had published again and again the meaning of our military insignia, and here was a man in public office who could not tell a major general from a sergeant. Perhaps it is the fault of the army that has adopted illogical insignia of rank, in this respect at least being as badly off as the English and Belgians. (The French have a simple arrangement of gold stripes. The Germans, three classes of shoulder knots for subaltern, field and general officers respectively. By the addition of stars, each class shows correspondingly higher rank.)

We reached our train and waited for some time to depart. The fireman had disappeared. Finally, we started and, an hour later, reached a small station near camp. A guide escorted us to camp. On the way, a woman appeared on the porch of her cottage and bade us welcome home.

Demobilization Paper Work

We were assigned to rooms in barracks. The amount of paper work demanded of us was enormous. All the work we had done in the embarkation camp at Bordeaux, the many lists we had prepared there counted for naught. Here it had to be done differently and all over again. The men were anxious to get to their homes. The clerks went to work pounding away at the typewriters with zeal and bitterness. Inwardly I was furious. We had been told so often that there were to be introduced new business methods, new simplified systems; but, instead, the paper work was quintupled, and here we certainly faced a useless burden; for, had there been a uniform system devised, we could have been spared all this work, since all necessary data about officers and men could have been prepared in France by adding a few carbon sheets.

I went to see some officers at headquarters. Some of my officers desired to remain in the service. One wanted to try for the regular army. In France, some had lived like lords. They had spent their money freely. Now they were broke and the future was uncertain. I had little sympathy with them, but I was still their commanding officer and I did all I could for them.

Close to the barracks, I noticed a grave. Why here? I looked at the tombstone. It read:

Here Lies
ALL HOPE
of Going Over Seas
Died November 11, 1918.
Erected by the Permanent Staff.

A minute ago, I wished all authorities with their lists and reports and other demands to a hot place; now I felt really sorry for them.

One of my officers visited the Base Hospital. He was shown around the few buildings. They asked him with pride what he thought of it.

"Well, don't let my Colonel see it," he replied.

"Why?" they asked in astonishment.

"He might take it along as a watch charm."

They felt annoyed, of course. He told them about our hospital in Bordeaux. They would not believe him. But, the next day, one of the officers recognized me and told me about the incident.

"Well," I replied, "Captain ——— is a joker. He knows that I have no watch chain."

Good humor was restored. They have a really fine hospital.

Our papers finished, the men again deloused, and the officers again examined for lice, we were sent to another section. Here new lists had to be made out. The officers, except my adjutant and detachment commander, were certified to as being no longer required for duty with the command. They were released and scattered to all four winds. The men were grouped according to residence. Under existing regulations, the commanding officer was to accompany the largest group. Fortunately for me, the majority of my men did not happen to come from California; otherwise, the prospect of a free journey to the Pacific Coast would have loomed as almost a certainty. It developed that, by adding an orderly, men from the east just topped a western group, so the worst was an order to go with it to Camp Dix.

We three officers and the largest group of soldiers went to the station. In the train, we found sandwiches provided. A Red Cross officer distributed cigars and cigarettes. We arrived at camp about 4 p.m. It was raining hard. The commander of the camp, a temporary brigadier-general, was at the shed and cautioned the officers to maintain discipline for the remaining few hours in service. One lieutenant stood like a statue throughout the speech; the rest, knowing that tomorrow they would have the red chevron of the "civilian" on their coat sleeves stood as they pleased.

Release

I went at once to headquarters. There were several formalities to be complied with. After all papers had been inspected, I asked to be released as commanding officer.

"Why, this is impossible."

"Why impossible?"

"Well, you are the commanding officer, are you not?"

"I understand, but you do not. I commanded a hospital with several hundred officers and thousands of men, but not a small group. I presume, if a regiment is broken up and the largest group amounts to about a platoon you will still hold the colonel instead of his adjutant?"

Finally, it dawned on the discharge officers that I was right. I was promised a formal release early the next morning; meanwhile I could consider myself as a casual. I was advised to go to a hotel, since the camp was primitive in equipment. An auto was secured and I drove five or six miles to a country hotel, which was really a first-class club house. A good dinner, a hot bath and a neat room and bed made a new man out of me.

The next morning, I reported for final travel orders. A telegram reached me from Major Stanton telling me that a young girl, on whom I looked as if she were my own daughter, was desperately ill and that a serious operation had been proposed. Every officer concerned rushed and I was enabled to catch an early local train for Philadelphia without having an opportunity to say farewell to Capts. Fochtmann and Rapuzzi, my adjutant and detachment commander respectively.

I reached Chicago in time to see the little friend alive. A day later, she died. . . .

Out of the Service

Again I am in mufti. I did not experience that mental unrest which was the fate of so many officers who suddenly found themselves retransformed as civilians. I had gone through that once before in my life.

Only the conditions of life, the inability to secure an office or a house annoyed me. But, after a few days' search, a place was secured and I am again at work looking after the ills of those who care to entrust their lives to me.

[*To be Concluded*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M. D.

Dr. Lightstone's Problem Again

IT would seem that Colonel Acheson, with true British tenacity, is not the one to give up without a strong fight. It will be recalled that, in a former communication to this department, he dismissed the case as one not allowing of a definite diagnosis. Now, that Dr. Lightstone has given us the diagnosis as appendicitis, Colonel Acheson surveys the battlefield, and here is his strategic and tactical critique of the situation:

"Referring again to Surgical Problem No. 4, I would say that your solution, given in the December Journal, and that of Dr. Crack, taken along with your comment on the case, contain all that one could reasonably expect to deduce from the meager data supplied; and all I have to add, is, that Dr. Lightstone made a darn lucky guess."

I am going to take the liberty of making a brief reply for Dr. Lightstone, as the time has been too short to submit Colonel Acheson's letter to him for comment. There is no doubt in my mind that Dr. Lightstone was very lucky in his diagnosis, but it also shows that he is a student of surgical literature, who digests what he reads. There undoubtedly was a coincidence of appendicitis and irregularly referred pain and, as I have alluded to before, there must have been something else, say, temperature, increased pulse and the like, to indicate a pathologic lesion of the vermiform appendix. These were not given us and we had no right to come to any other conclusion from the data as presented. [An instructive discussion of abdominal pain appears on p. 112.—Ed.]

In this connection, I desire to tell of a recent experience. A very young physician, recently from school, asked me on the phone to tell him whether it would be safe to operate on an elderly man who had a bubo very much inflamed and exceedingly painful.

My first impulse was, to tell him: "By all means open the bubo," for, to my mind, a picture of a suppurative adenitis was plainly visible—over the phone. By mere instinct, I hesitated and asked him to describe the swelling. He replied that it was very elastic, indicating fluctuation, oblong in shape, about the size of two eggs placed together lengthwise.

"I see no objection to your operating on him, provided you will know what to do if you find a foot or two of gangrenous bowel in the sac and abdomen," I answered.

"My God, doctor, you do not mean that the man has an incarcerated hernia?" the young fellow remarked in an excited manner. "That is exactly what I do mean. These old hernias have the nasty habit of becoming incarcerated." Needless to say, I was called in consultation and, after a simple examination and interrogation, made a diagnosis of—sarcoma. The inflamed condition was doubtless due to some irritant paste he had given him by some itinerant vendor of "cancer cures." The microscope confirmed the story.

Solution of Surgical Problem No. 6

Before discussing this problem, let me express my gratification at the number of replies received. As space in this department is about as precious as a pound of coal, I have selected the two best solutions. Again, Colonel Acheson carries off the palm, but he has a close rival in a colleague from Austin, Texas. As this is the first time that Dr. S. A. Woolsey has written a solution for us, I greet him heartily and invite him to come again. As will be seen, he is a fine thinker. Incidentally, he reminds me of the fact that, while in the military service, in 1916, I made the march with my field hospital from San Antonio to Austin. We were to rest there for three days. The very afternoon of my arrival, I began to suffer from chills, nausea, fever and prostration, and I was sent back to San Antonio with a diagnosis of dengue fever. A few days later, it was discovered that I had a vulgar malaria. In spite of this experience, I have a pleasant reminiscence of the town, with its fine schools, public buildings, but especially with its fine and hospitable inhabitants.

Recapitulation of the Problem.—You perform a hysterectomy for fibromyoma on a woman, aged 55, under general anesthesia, after a preliminary administration of morphine-atropine, at 10 a. m.

The patient is returned to the room in apparently good condition, with a pulse of 100.

At 7 p. m., the patient's condition is best indicated by the fact that the pulse has come

down to 90, with a temperature of 101° F. respiration 28, moist tongue and bright facial expression.

On the next morning visit, the condition is unchanged, but, at 4 in the afternoon, or about 29 hours after the completion of the operation, the patient's condition is not so satisfactory, the pulse having increased to 124, the respiration rate to 32, while the temperature went down to 99° F. The tongue is furred and somewhat dry at the edges. The patient appears restless. Palpation of the abdomen yields nothing abnormal.

Solution by Colonel Acheson.—In the study of this case, it is presumed that, before operation, the primæ viæ were cleared out and, therefore, an overloaded large bowel could not so soon give rise to any such train of symptoms. One may enumerate then as possible causes of the condition described: (1) hemorrhage, (2) shock, (3) traumatic or plastic peritonitis, and (4) sepsis.

Let us examine each of these factors in the inverse order in which I have stated them:

Sepsis. Septic infection after abdominal operation is usually marked by increased pulse-rate and rise of temperature, with a distressed facies; pain is complained of, the abdomen is tympanitic, and there is probably nausea and vomiting. In this case, on the second day, the temperature has fallen to 99, though the pulse and respiration have risen; and, though, in suppurative peritonitis, we may have a subnormal temperature, yet one would hardly expect it so early in the history. During the stage of invasion of the peritoneum by the septic organism, there is an initial rise of temperature, which afterwards falls as the general septic condition progresses. We are told, moreover, that abdominal palpation was negative, and we infer that there was no tympanites, nausea or vomiting. Therefore, I think we may exclude septic infection.

Plastic Peritonitis. It is open to discussion whether or not there is such a condition as postoperative traumatic peritonitis without infection, but many observers are of the opinion, that, for the first two or three days after an abdominal operation, the patient may exhibit many of the symptoms of peritonitis, although the results of careful bacteriologic examination are negative. The trauma incident to the operative technic sets up a plastic inflammation of greater or lesser intensity, depending on its degree and extent of tissue involved. When this is of greater severity than usual, the symptoms described above, as characteristic of septic peritonitis, are more or less in evidence, viz., elevated temperature (100 or 101), moderately rapid pulse but of good volume, nausea, vomiting, abdominal pain, tenderness and tympanites, increased respiration due to embarrassed movement of the diaphragm, but the patient has not the facial expression of the septic type, and, in a couple of days or so, the untoward symptoms disappear. The case in question does not quite fit this description in all respects; so, I think that peritonitis may be ruled out.

Shock. We might be inclined from the history of this patient to anticipate the occurrence of shock. We are told, she has suffered for some time from metrorrhagia. Therefore, she was probably in a weakened condition and anemic. She seems, however, to have rallied well from the effects of the operation and to have progressed favorably for 24 hours. But, what about late shock? Such a condition may be due to nervous depression from previous physical exhaustion, or to psychic depression; this woman was afraid that she had cancer, and this idea may have had a profoundly depressing effect on her nervous system. Yet, I scarcely believe that her symptoms are to be explained on the theory of shock.

Hemorrhage. We come now to the consideration of secondary hæmorrhage as the cause of her unsatisfactory symptoms. This, if I exclude sepsis, is one of the commonest complications that follow abdominal operations, although a careful technic should practically eliminate it entirely. What are its symptoms? There is sudden rise of the pulse rate with decreased volume, the temperature falls and may become subnormal, the respirations are quickened, more or less labored, and shallow, the countenance assumes a distressed look with increasing pallor, the skin becomes clammy and cold, there is abdominal pain, sometimes vomiting, considerable restlessness. Many of these symptoms are common to shock; but, in the latter, they come on more gradually, while in hemorrhage there is usually a sudden fall of temperature with an increased pulse-rate. The case under discussion does not perhaps present all the required symptoms, but I think that there are enough present to warrant a diagnosis of Secondary Hemorrhage.

Treatment.—Having made our diagnosis, no time should be lost in taking measures to stop bleeding and restore the normal intravascular pressure by infusion of blood or normal saline solution. The operation wound should be reopened at once, the effused blood rapidly cleared out and search made for the bleeding vessel, in this case probably to be found in the cervical stump. It is unnecessary to detail

the further steps of the operation and after-treatment.

Solution by Dr. S. A. Woolsey

In trying to come to a conclusion relative to Surgical Problem No. 6, published in the December (1922) issue, four possible conditions present themselves to my mind, namely: volvulus, followed by gangrene of the gut, bronchopneumonia, suppression of urine (acute nephritis), and secondary hemorrhage.

It seems to me, however, that palpation of the abdomen would certainly have discovered a tumor if there had been volvulus. Nothing was mentioned about the patient having voided urine; so, it may be presumed that any irregularity of the urinary function would have been noted.

The rapid respiration is suggestive of pneumonia but, as no thoracic findings are given, this can be ruled out.

The rapid pulse, rapid respiration, restlessness and changed aspect of the patient, together with dry, furred tongue, the age of the patient, together with the history of bleeding previous to the operation, would make me think seriously of secondary hemorrhage, possibly continued oozing at the site of operation. The sudden drop in the temperature would indicate a rather free hemorrhage.

Therapy.—In the absence of pneumonia and nephritis, I would reopen the abdomen, tie off any bleeders or pack oozing surface with gauze. Hypodermoclyses and proctoclyses of normal saline solution; atropine, small doses repeated often and to physiological effect, heart stimulants p. r. n.

Comment

It is gratifying to have two such brilliant discussions to comment on. There are a few others that have come in, and which I should have published, were it not that space is so valuable that I can select only the very best.

In this respect, I may be pardoned for my gratification also from another point of view. Ever since this department was inaugurated, I had hoped to see it bear some fruit, and this is the first issue which has given me complete satisfaction. An acquaintance recently commented on this work and hinted to me that I had it easy, that all I had to do was, to select a case from my practice, *et voilà.* If this were so, my work would be a clinical department and not a seminar, and, if any one thinks that the enormous salary paid me by the Journal is not earned, let him try to submit cases. A few know already what I mean.

All this was said to bring out the point that I, personally, do not care a rap whether Colonel Acheson and Dr. Woolsey have sent in the correct diagnosis or not—it is the manner in which they thought it out that counts; for, one can readily see that a patient in their hands would receive scientific and, therefore, rational care.

If I had been a contributor to, and not editor of, this department, I should have begun a rather personal solution, something like this:

Dear Editor: You and your case give me the jimjams. Here I am snugly retired in my den for an hour's relaxation, and you have nothing better to think of than to give me nervous prostration. It is one thing to read about surgical problems and quite another to walk into the sick room and find that a job, you think you have done *lege artis,* with all the technical refinements and circumspection, is likely to be the cause of shattering your reputation as a surgeon, at least with the patient's family and friends.

You go, in your mind, through the whole operation. You recall that the entire procedure lasted only forty-two minutes or so, therefore the anesthesia, which was carefully administered, could not be blamed; you also recall that you hardly exposed the intestine but surrounded the uterus with a wall of moist warm gauze; you recall that you paid particular attention to every ligature, to every raw surface; you even closed the wound without drainage as the best procedure to prevent infection; and, now, as you stand there, you almost wish you had a gauze strip leading from under the dressing to the bottom of the wound; for, then, you would now know whether or not you have to deal with a secondary hemorrhage. Is it a hemorrhage? Could Colonel Acheson and Dr. Woolsey and fourteen other readers, who have sent in the same diagnosis, really diagnose a secondary hemorrhage on the data as given or on the patient as she appeared at the moment of observation? And would they really rush her to the operating room immediately, on the strength of such a diagnosis?

I shall not take up your time with a repetition of the pros and cons for diagnosing secondary hemorrhage. That has been done very ably already, and those of us who are not blessed with a retentive memory can step to the bookcase and satiate themselves with idle discussions. I say *idle* advisedly, for at precisely the moment we see the patient, we are simply up against it, and that is the reason why the case has been selected. For, at six or seven o'clock, there will no longer be any uncertainty and, of course, the case will become uninteresting for our little or big family circle, all depending on how many of the subscribers read this department systematically.

Now, I, too, would at that time rule out one by one peritonitis in any form and infection, and, as for secondary shock or late shock, as some call it, I, for one, would not even give it a thought. In my humble opinion, there is "no such an animal," and, if any one can believe that a patient is leaving the operating table in good shape and stay in good shape for over twenty-four hours and suddenly show the frightening and frightful symptoms of shock without there being a foudroyant infection of the most virulent type or a serious hemorrhage, he is welcome to that belief. But, I cannot and never will sit in the same lodge with him; for, we have not agreed for thirty years past and it is not likely that I shall become converted after years of thinking on rational and naturalistic lines.

There is one thing that has not been mentioned and that must be briefly alluded to, and that is—thrombosis. I am well aware of the fact that every wound in which bloodvessels have been severed heals through thrombosis, and this process, which is known to us as a purely natural result of surgical intervention of some magnitude, produces no perceptible symptoms whatever. But, when we note *an increasing pulse rate with a temperature within normal variations* (and that is what a temperature of 99° F. amounts to), one should think of *progressive thrombosis,* a disquieting affair, since, when the diagnosis becomes certain through embolism, we shall confront a calamity against which we are helpless!

All this represents one of the most interesting problems of surgery and, later on, when I have my war memoirs out of the way, I shall continue a series of articles on the care of surgical patients, and discuss this phenomenon and its prevention in extenso.

And, so, when I stand before a patient betraying only symptoms deviating sufficiently from the normal progress of convalescence to cause us some anxiety without definiteness, I can think only of a very mild secondary hemorrhage—probably only the accumulated effect of slow oozing—and, of progressive thrombosis. This is my estimate of the situation.

Now, as to the therapy. On the assumption that it might be a progressive oozing likely to stop and become absorbed, active intervention is not indicated just at that moment. On the other presumption, that we are confronting a progressive thrombosis and not a mere disturbance through resorption (for, then, we would have increase of temperature, pain and perhaps, reflex phenomena (vomiting), a small dose of morphine (¼ grain) is the best treatment I know of. I should give that. One more thing I should do if this happened in a hospital that is not maintaining a rule to keep one operating room in readiness for reopening the abdomen: I should give an order to have everything ready for a life-saving laparotomy with all that it implies; heat, warm-normal saline solution, sponges and infusion, stimulants, etc., etc. One thing I should *not* do, and that is, to leave the patient out of my sight for the next few hours. After all, there may be a stoppage of the flow, and the extravasated blood may become resorbed and the storm—threatening though it appeared to be—may calm down again, or the feared embolism may not take place because of an erroneous diagnosis or through caprice of the thrombi, influenced somewhat by the morphine. Pages could be filled with the preventive treatment of these and similar complications. It is good to have an easy mind on that score.

Surgical Problem No. 8

The following problem is doubtless the most difficult yet presented in this department. Nevertheless, it is believed to be one of great practical interest. While it must be admitted that this class of cases is rare and of a gravity which would cause even an experienced general surgeon to seek counsel, it is hoped that many readers will be interested enough to make a diagnosis and give their reasons therefore, this problem representing a purely diagnostic exercise of disease of the brain.

The patient is a boy, fifteen years old. He has parents who are living and in good health. He has one brother living, in good health. Two sisters died in infancy of a cause which can not be elicited. The parents are immigrants, Lithuanians, of fairly good intelligence. The mother states that the child has been in good health up to his fifth year. He had then, to judge from her description, either influenza or pneumonia. Since then, she noticed that he was not strong, that he could not walk as well as before and also that he frequently complained of severe headaches. This went on for about two years. The village physician had given some medicine and had advised him to go to a large city to enable the patient to receive scientific care, but they lacked then the means. About that time, everybody noticed that the head was becoming large and larger in size.

The subsequent story, elicited on inquiry, shows that his parents emigrated to America about eight years ago. While in New York, a spinal puncture was proposed by a physician

in some "very large hospital," but refused by the mother. Later, the child could not walk at all and had to remain in bed or propped up on a chair. A priest came often to the house and gave him some instruction. In intelligence, he appeared to be the same as his brother who is his senior by a little over a year. On the advice of the priest, the patient is brought to the hospital from the country, for diagnosis.

Examination shows that, in spite of the rather miserable condition, the boy is well developed. He looks pale and lean. Osseous system well developed. Temperature, 98.4° F. Hydrocephalic head of enormous size. Sutures and fontanelles can not be mapped out.

Left arm flexed in the wrist joint, weak and thinner than the right. Both feet are in pronation. The right side of the face is less developed than the left. Pupils equal. The boy has difficulty in pushing the tongue to the left. There is horizontal nystagmus, eyes can be moved with ease, but the patient has some difficulty in turning his head to the left.

The muscles of the small fingers are atrophic on both sides, apparently more so on the left, and slow reaction of degeneration. Motions of the arms poor, the left one worse. The muscles of the legs are spastic, especially so on the left limb, rendering standing and walking impossible. Sensibility is normal. Patient has good control of the bladder and anus. Patellar reflexes are exaggerated on both sides, though more pronounced on the left. Ankle clonus and Babinski reflex present. Pupils react slowly. Patient can not see figures at a few inches distant, but can differentiate between light and darkness.

Spinal puncture shows 230 mm. pressure. A little over an ounce of spinal fluid is obtained. Patient vomits and cries out from headaches. Pulse rapid and easily compressible.

Two days later, spinal puncture is repeated, less than an ounce being slowly obtained, with the same violent reaction which lasts for two days. The violent headaches continue. Why this intense reaction? Why so little spinal fluid on puncture?

NOTE: The case was operated on later on an erroneous diagnosis. An opportunity is afforded our readers to send in their views. Instead of a comment, the details of further observation, including post-mortem findings will be given.

Pass the Flowers, Please!

WHEN I cash in, and this poor race is run,
My chores performed, and all my errands done,
Perhaps some folks who mock my efforts here
Will, weeping, bend above my lowly bier—
And bring large garlands worth three bucks a throw,
And paw the ground in ecstasy of woe—
And friends will wear crepe bow-knots on their tiles,
While I look down (or up) a million miles,
And wonder why those people never knew
How square I was before my spirit flew.

WHEN I cash in, I shall not care a yen
For all the praise that's heaped upon me then;
Serene and silent in my narrow box,
I shall not heed the praises or the knocks;
And all the pomp and all the vain display
Will be just fuss and feathers thrown away.
So, tell me now, while I am on the earth,
Your estimate of what my friendship's worth—
Oh, tell me what a loyal chap I am
And fill me full of taffy and of jam,
Spread it on good, like honey's spread on bread—
Don't wait to shoot the bunk when I am dead.

—*Exchange.*

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE, M.D.

Was It Telepathy?

TELEPATHY is defined by the Standard Dictionary as, "The supposed communication of one mind with another at a distance, without the use of any means known to physical or psychological science."

Unfortunately, this definition does not throw any light upon the nature of the forces involved and, so far as I know, little progress has been made in the investigation of the subject. About all that we know is, that there is such a thing. I have had communicated to me a few experiences by people of undoubted veracity.

I should be glad to have any of my readers who have had experience along this line to write me, reporting their cases in detail, always providing that the experience was personal, under their own observation, and not merely heard of. Second-hand evidence loses much of its force and value. To quote quaint old Gilbert White, of Selborne: "There is such a propensity in mankind towards deceiving and being deceived, that one cannot safely relate anything from common report, especially in print, without expressing some degree of doubt and suspicion."

An Authenticated Case of Telepathy

Of such cases occurring under my own observation, the most clear-cut and striking was one that happened about thirty-five years ago.

I had at that time a family by the name of G., consisting of husband, wife and three children. Mr. G. was a commercial traveler and naturally spent a good part of his time on the road. They were people of the kind that doctors like to have, giving their fullest confidence to their family physician, and as a family they were thoroughly devoted to each other.

One morning, Mr. G. left home with the intention of spending a good part of the forenoon at the wholesale house of his employer, preparing the samples which he was to take with him when he should take the train about noon for a three weeks' trip. In those days, telephones were not as plentiful as they are now, and very few private families had one in the house, except the rich. So, when Mr. G. left the house in the morning, he took leave of his family, not expecting to hold communication with them any more that day.

Between ten and eleven o'clock that forenoon, I was summoned to the G. home by an urgent message. I found Mrs. G., who had been perfectly well when her husband left home that morning, in a very serious condition. She was about three months pregnant, and had been suddenly seized with severe hemorrhage and the other symptoms of a miscarriage. She was so completely exsanguinated that it was only with the greatest difficulty that I was able to save her life. Finally, after two hours of anxious effort, I was rewarded by signs of rallying, and the greatest danger seemed to be over. However, her condition was still critical enough to make me hesitate to leave her; so I decided to remain a while to make certain that the improvement was permanent. I sat down at the front window to read while I waited. After a time, I heard the front gate clang and, looking out, I saw Mr. G. hurrying up the walk carrying his sample case. I opened the door for him, and his first words were: "I knew there was something wrong! What is it?"

He told me that, during the forenoon, while he was getting things ready for his trip, he had an uneasy feeling that something was wrong at home. This feeling grew more intense and, shortly before he was ready to start for the station, it seemed as if his wife's voice pronounced in his ears the words: "Come home!" Greatly disturbed in mind, he was inclined to ask his employer for leave to postpone his trip until he could go home. But, as he felt he could give no reason for such a request that would not be laughed at, he said nothing and started for the train. But, before he got to the station, the impression became so strong that he simply turned about and took a car for home.

It is interesting to relate that I checked up on the time very carefully with him, and found that the time when he thought he heard his

wife's voice coincided exactly with the time when she lay unconscious and I was in doubt whether death had not actually occurred, so completely did animation seem to be suspended.

Now, such occurrences are not very rare. Many cases more or less similar have been reported by persons of reliability. It is pretty generally conceded by scientific men that telepathy is a reality; but, when we come to consider the *modus operandi,* we at once find a wide divergence of opinion.

As to the attitude that people take towards reports of telepathic happenings, we may say that there are about three classes of persons.

One group pooh-pooh the whole thing, apparently regarding those who report the cases as either fools or liars. To such, the seeker after truth need give no attention. Evidence means nothing to them. Mental honesty is a quality that they are incapable of understanding.

Another class there is that go to the opposite extreme. They swallow eagerly everything of the sort that they hear of, regardless of whether the reports are reliable or not, and reports are even exaggerated by them as they pass them along. They understand the thing perfectly (so they claim), and can tell you just what to call it—whether spiritualism, Swedenborgianism, telepathy, autosuggestion or what not. They completely ignore the fact that scientific truth is not arrived at by jumping at conclusions but by applying to alleged truth the merciless logic of facts.

In the third or middle class between these two extremes, are found the only ones to whom we can look for help in solving the problem truthfully, that is, scientifically; for, science and truth are identical. The only way to make any real progress in such a matter is, to collect all the reliable evidence possible, and then draw therefrom such conclusions as the facts warrant.

Hypnotic Suggestion

THERE is another subject that in some respects seems as if it might be more or less related to the one referred to. I mean that which has gone under the various names of magnetism, mesmerism, hypnotism, and suggestion. In this field, considerable progress has been made along scientific lines, so that suggestion has been used for therapeutic purposes with a degree of success. The curse of all such means is, that quacks and impostors make use of them to extract money from the credulous, and thus bring the whole matter into disrepute. But, excluding the work of all such impostors, there remains a residue of cases that are scientific and reliable, being attested by persons of unquestioned veracity.

As an example, I may quote an instance which came under my own notice, and which I can vouch for in every detail.

There is living in this city, today, a physician whom I will call Dr. C. I have known the family intimately for over forty years, and every one who knows them would take their word on any subject. For many years, Mrs. C. was a great sufferer from facial neuralgia. Most of the attacks were so intensely painful that nothing milder than morphine would render them bearable. I have myself been called to administer a hypodermic, when an attack came on during Dr. C.'s absence from the city. They were very anxious regarding the danger of establishing the narcotic habit, but the suffering was so intolerable that there seemed to be no way of avoiding the occasional use of the drug. Some eighteen or twenty years ago, Dr. B., a well-known physician of this city, who had made a scientific study of hypnotic suggestion, undertook to see whether it would be of any use in the case of Mrs. C. Her husband was sceptical regarding the matter, but the case had been so baffling that he was ready to try anything that promised even a faint hope of relief.

Dr. B. put the patient into a hypnotic sleep and used suggestion. A considerable amount of relief was in evidence after the first treatment and, after several (I have forgotten the exact number), the cure was complete. Mrs. C. has now been free from her old enemy for nearly twenty years.

Dr. B. informs me that there is a great difference in cases; that some resist all efforts at cure, some are partially relieved, and others are completely cured.

Another physician of my acquaintance, who is now deceased, told me that he had made use of the hypnotic sleep quite extensively in obstetrics. He said that, in a large proportion of cases, he had succeeded in bringing about painless delivery, and in other cases partially so. He claimed that he had found no individuals who could not be hypnotised. [The Editor's brother, a dentist, operated on his wife painlessly while she was in hypnotic sleep. During her confinement, though, the method was only partially successful.—Ed.]

Perhaps the most important question relating to the therapeutic use of hypnotism and suggestion is, whether any one can learn to use it. Has everybody the power, if he will exercise

and develop it, of putting another person into a state of hypnosis? I do not think so, from all I have been able to gather. And there is another thing that restrains many from experimenting with it. Cases have been reported where some novice has experimented on his own account, has succeeded in hypnotizing a subject, and then has found that he was unable to awaken him until he called in the assistance of an expert. It is always a mistake to tamper with a matter that one does not understand. Any one desirous of making a sincere study of hypnotism should take instruction from a recognized authority on the subject, in whose presence all experiments should at first be made.

As to whether there are persons who cannot be hypnotized against their will, I should be inclined to say that there are very few, if any. I have seen a number of instances where an individual stoutly asserted that he would like to see somebody hypnotize him, and yet he was conquered, and his first realization of his defeat came when he awoke to hear the laughter of the spectators who had been amused by his absurd actions while under the hypnotic influence.

On the other hand, I have heard professional hypnotists admit that they had met persons who had resisted their efforts successfully; at the same time, they expressed the belief that "at another time under different conditions" they might have succeeded.

What of Coué?

AND, now, a new star has arisen whose light, let us hope, may illumine some of the dark recesses of the subject. Professor Emile Coué, of Nancy, France, asks the world to look at the work he has accomplished along the line of autosuggestion as a means of alleviating ills of mankind. He claims to have given health to great numbers of people sick with various diseases, and his claims are substantiated by hundreds who have apparently been restored to health. Of course, we all know that the practitioners of every cult make similar claims and produce similar proofs, and the real question for investigation is, whether or not the professor and his patients are self-deceived.

Some of his statements sound like the effusions of an enthusiast who dwells unduly upon successes and ignores failures. But, that should not prejudice us. That happens every time a new and successful treatment is discovered. Either the discoverer or some one else grows more sanguine than the facts justify, and the first enthusiasm has to be modified by experience. If time shows that Coué's statements are true and, above all, if others can make use of his methods successfully, we need not attach too much importance to our first impressions. If the thing is a delusion, time will soon show it.

We already see the foolish spectacle of members of the medical profession rushing into print, condemning and ridiculing the whole matter without investigating the evidence. Such snap judgment brings the profession into disrepute by giving the laity grounds for charging us with bigotry, a charge which, unfortunately, is sometimes only too well founded. There is no bigotry so obstinate as that of some pseudo-scientific men—men who have never learned that the first characteristic of a scientific man is openmindedness.

I have seen the statements of some of those who have attacked Coué, and their arguments, boiled down, amount to this: "The thing is impossible because the diagnosis is worthless." Truly, a fine piece of reasoning to come from a supposedly scientific man! When a sick man gets relief from suffering, he cares little whether the diagnosis was correct or not.

Professor Coué's method is very simple. It is merely suggestion as we have known it before, applied in such a manner as to induce autosuggestion on the patient's part. Twice a day, morning and evening the patient is to put himself into a position of physical and mental calm (lying in bed is a good place). Then he is to repeat slowly and in a low voice, twenty times, the formula: "Day by day, in every way, I am growing better and better." This is not to be accompanied by any effort of the will; on the contrary, the attitude should be perfectly passive. The professor claims that this repetition of the formula reacts upon the subconscious, or unconscious mind (the imagination), which, he asserts, controls bodily conditions of health and disease. I quote: "The imagination dominates the will."

"Autosuggestion means implanting an idea in one's self through one's self."

"All our lives, we have been autosuggesting *unconsciously;* what we need to learn is, to autosuggest *consciously.*"

"Please understand that autosuggestion is nothing else but hypnotism, as I comprehend it, and may be defined in simple words as the influence of the imagination on the moral and physical being of man."

Coué's formula, "Day by day, in every way, I am growing better and better" has become a

sort of semihumorous byword, the butt of newspaper jokes; and it does rather strike one at first sight as an absurdity—too simple to be taken seriously. But, on careful consideration, we may find in it after all a ray of truth confirmed by our own experience. It is possible that Coué has in his enthusiasm gone farther than the facts warrant; but there certainly is such a thing as autosuggestion, and our own experience contains abundant proof of it if we stop to reflect. We can and do influence our daily lives by means of it, although we may do it unconsciously. Every election campaign furnishes abundant illustrations. People imagine that they decide by their reason how to vote. A small proportion perhaps do; but with the great majority it is a matter of suggestion and autosuggestion.

It is a subject that I have studied for years, and I am convinced that, the larger the role played by the nervous system in a given disease, the more we can accomplish by autosuggestion. It seems probable that there are many diseases that could be influenced very little by it; but Coué's reports of cases seem to point to a different conclusion. However, time will gradually clear up the matter. To the sincere seeker after truth, there is food for reflection in some of the results obtained by Christian Science and some of the other cults, and especially in the occurrences at the shrine of Ste. Anne de Beaupré, in Quebec, and at that of Lourdes, in France.

Practiced by Physicians

Autosuggestion is usually initiated by suggestion from others, and then continued by ourselves. All successful physicians make use of it, often unconsciously; and, generally speaking, it is true that, the more the physician uses it, the more successful and popular he is.

I have in mind a striking example. I knew a certain doctor whose skill was only mediocre, but he had an enormous practice in spite of that fact. He gave great attention to his personal appearance and to his bearing towards his patients. He received each patient as if that particular individual were his special friend, listened courteously and even enthusiastically to the recital of his ills, and made him feel that here was a doctor who understood his case and could do for him what no one else could. And all this was done so tactfully that there was no coarse boasting of special skill, no belittling of other physicians—simply the impression of sympathy, skill, and friendship. The doctor began it with suggestion of the most skillful type, and the patient carried on with autosuggestion.

We all know the jolly, cheerful doctor who breezes into the sickroom, speaks hopefully and encouragingly of the patient's progress, making much of the favorable symptoms and as little as possible of the unfavorable ones. When he goes away, he leaves the patient in a better and more hopeful frame of mind. I do not mean to say that a case of pneumonia or typhoid fever can be cured by cheering up the patient, but I do believe that, other things being equal, the patient with a cheery doctor has a better chance than the one with a doctor with a long face. We influence other people by unconscious suggestion and are influenced by them. It is quite possible that, if we were to cultivate conscious, intentional suggestion more, we might greatly increase our power for good, and perhaps hold some of the patients who now go to the irregulars. There is no doubt whatever about it that many of the cures wrought by the cults are accomplished by suggestion. Why cannot we do as much?

There is often suggestion in the way a doctor talks to his patient. Dr. A. perhaps makes a perfunctory examination and says: "I think you are beginning with pneumonia. It may be only a heavy cold, but it looks suspicious. We will try so and so and it might be a good plan to apply so and so."

Dr. B. expresses no opinion until he has made a very thorough examination. Then he says decisively: "You are beginning with pneumonia. Here is your prescription. Take it exactly according to directions. Apply so and so to the chest for so long. Take no food except what I order. You will soon feel better."

Dr. A.'s uncertain and hesitating manner has one kind of effect on the patient; Dr. B.'s thorough examination, and his decisive way of expressing his opinion, and giving directions, have the opposite effect, and inspire confidence. Both are using suggestion, but of opposite kinds, and perhaps unintentionally. How much more effective we could all make our work if we only remembered to do so!

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Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER, M. D.

It Won't Be the Same in a Hundred Years!

IT has recently been my lot to read a multiplicity of articles upon "How to Attain Longevity," "Reaching the Hundred-Year Mark," etc., etc. Just why any rational individual should ardently yearn to live to be a centenarian I, personally, don't know. From what I have observed, I am perfectly willing to be "filed" long before then. Still, there *are* dear old souls of from eighty-five to ninety who like this earth well enough to hang on—possibly in the hope that the next improvement in Radio will enable them to hear and see all that is going on in the village, town or county in which they dwell, without having to get up and go after it. Most of these very old settlers do *not* "get up and go after" things to any extent. Why should they? They've been "getting it"—one way or another—ever since they were born, and they deserve a rest. Some of them get just that and some don't—at least till they have parted with whatever they managed to accumulate while they were "getting theirs." Then, as a rule, they are permitted by those near and dear* to them to keep perfectly quiet. In fact, they are urged to!

Why, under such circumstances, yearn to sojourn further in this Vale of Tears? To solve this mystery and to get an idea what things really will be like, a hundred years from now, I went "crystal gazing," and, if you were to see what *I* saw, you'd be perfectly willing to "go hence" some time within the next two or three decades, the exact date of departure, of course, depending upon your present degree of maturity.

The Gift of Foresight

To explain *why* I should and *how* I *could* go "crystal gazing" in this day, demands a few explanatory paragraphs. First of all, let me state distinctly that, from early childhood, I had an almost uncannily keen sense of what was going to happen. Indeed, upon very many occasions, I knew not only what was going to happen but just what part of my anatomy something was going to happen to. At the early age of five, for instance, I knew when I saw an Eton collar and round-about coat laid out on my bed that I was going to be dragged five miles to church the next morning—or suffer untold tortures eating seed-cake (they don't make it any more) in the domicile of some very precise aunt or similarly dreadful personage. I knew perfectly well, at eight, that, if I got caught putting rhubarb jam on cookies (cakes, we called 'em then) and cream on top of that, I'd have to go to bed. My judgment on this point was infallible—so, I seldom got caught. I thus learned early that there is nothing like foresight. The thing was, to develop this faculty and use the knowledge so gained to prevent distinctly disagreeable (often painful) things from happening.

Crystal Gazing and Crystals

Through life, therefore, I have made it a point to adhere more or less closely to this plan and the results have been—at times—distinctly satisfactory. That is to say, I have (in the dim and distant past) "gazed into the crystal" just often enough to see things and, when I did this, I kept my eyes peeled going home and, if I saw trouble coming, would slip down a side street. Usually, "trouble" took the form of a stout man with an absurd hat on and swinging a club in his hand. I often congratulate myself that he and I never became intimately entangled. There have, of course, been failures in my method, but "we will e'en let lying dogs sleep," as Burns so beautifully remarks. Perhaps, for the guidance of those who now need (or will need) the assistance of an experienced traveller, I might state that foresight is NOT to be depended upon by a male if there is a female in it. And vice versa.

*Synonym for expensive.

For instance, if you've gazed into the crystal eyes of Edith Eileen and gone away convinced that you're her'n and she's your'n forever, you are apt, even within the week, to get a severe shock. Edith Eileen may marry a freckled-faced baker and, some day, a Mary Elizabeth may tell *you* where you can hang your extra suit. Yes, *hind*sight is the only dependable thing when you're dealing with the "infernal (I *think* that ought to be internal?) feminine." And even that doesn't do you much good. Unless, of course, you take a gruesome interest in surveying the spots where you fell. Personally, I don't admire that kind of scenery.

I have, I trust, made it plain that *some* crystal orbs should be gazed into with extreme caution, and it is often well for the gazer to wear smoked goggles. They may be an encumbrance and obscure the view, but—well, they may save him from a heap of encumbrances later.

The crystal to gaze into, if you would really see things, has a conventional shape and, heretofore, has been easily filled with a translucent, reddish, nut-brown or golden fluid, as the observer preferred. To some eyes, a red or purple proved most desirable, while others again required a sparkling effect—their visions floating up, so to speak, from the bottom of the crystals on millions of minute bubbles. Using such a medium, however, the visions were apt to be too numerous and wonderful to make a lasting impression—indeed, they were frequently forgotten within twenty-four hours, their departure being accompanied by a very severe cephalalgia, the latter being due, doubtless, to overstimulation of the optic nerve. What?

Today, unfortunately, it is becoming extremely difficult to obtain a really dependable filling-medium. *Crystals* there are in abundance; but, empty, they will not work satisfactorily. However, as is well known, the Scotch are particularly gifted with foresight ("second sight" it is often termed, though I never knew a true Scot who needed more than *one* look) and I happen to have a friend who hails from Glenlivet and whose name is Haig. To him I went and confided my desire to gaze once more in a real crystal and see what was likely to be doing on this poor old hard-tried earth a hundred years from now. "Hoot mon," says he, "what the de'il d' ye care! Why fash your brain aboot sic a thing when your ain sel' will be amang the speeruts?" "Merely a scientific inquisitiveness on my part," I answered, "together with a desire to warn those who are coming along, of what they may expect. Let's look into the future if you have the medium." And, after deep and long gazing, this is what I saw. (*People of particularly nervous or "susceptible to suggestion" temperaments are advised to stop here.*)

A Hundred Years From Now

The first thing that took form in the crystal was a book, open at the title page. Thereon I read:

THE UNITED STATE IN AMERICA

As observed by Umskilly Roundmouthus, Baa. Maa., Doc. Soc., D.D.D., L.L.L., Fellow of the United Fijian Fudge-Budge, Member (ex-officio) of the National Society for the Preservation of Personality, and Recording Secretary of the Institute of Infantile Investigation, etc., etc.

Published as an Authoritative Observation
by
The University of Upsadasy, Umpqumpqua, Fiji Islands.
2024.

The pages passed slowly before my eyes and I learned with extreme surprise that, by about 1970, the Fijians were leading the intellectuals of the world. To accomplish this, they had been compelled to eat a very large number of peoples who had disagreed with them, but had found the citizens of these United States too tough to tackle. Therefore, they studied them by stealth and revealed their peculiarities, which were many. Roundmouthus had been particularly impressed, it was obvious, by the (to him) extremely bizarre manner in which the race was perpetuated here, and dwelt at some length, both on the somewhat earlier and the up-to-the-minute marital relation—"if indeed," he remarks, "it may be so termed."

"The Women of America," he states, "have, for nearly a century, been asserting their rights to be considered the superior, indeed, the *essential* sex, and it has irked them enormously not to have been able to discover a satisfactory substitute for the male. Up to the present moment, however (2023), their most skillful Scientettes have been unable to find any method which will permit them to—as they peculiarly express it—'go it alone.' For this reason, the National Seniles (sitting as a body) enacted a law, in the year 2001, that all males should be divided into two great classes: Mans and Mannies. The first are specially selected by the Committee of Continuance at a very early age and, from that time on, live a life of extraordinary ease and are greatly admired and feared by the Mannies. The latter creatures undergo at the fifth year a series of anatomical alterations which make them extremely docile and obedient workers and, it must be said for the Ma's (for so the adult females are called) of America,

that they know how to get the most work out of a given number of these poor creatures.

The Indispensable Male

"Up to the time that they attain their eighteenth year, the Mans are wards of the nation and are allowed to live a carefree, well-fed existence in the two states of Rhode Island and Michigan. They are known thereafter as "Rhode Island Reds" and "Ganders" and there is sharp competition between these varieties, later, when they are brought to assume their positions as Progenitors in the Community Centers throughout the country. Until this period arrives, the Mans are not allowed to see a Ma or Mamette—even of the most tender age. In fact, the two 'Separate States,' as they are called, are entered by females only when the Committee of Continuance (to be a member, one must have passed the sixtieth year and borne at least two female children for the Commonwealth) pass in to select and take away for marital purposes a herd of Mans. All the work here, as elsewhere, is performed by the Mannies and, if one may believe them, a very uncomfortable time they have of it with their charges.

"At or about the eighteenth year, the Mans are, as stated, carefully examined for gross physical and temperamental defects and those who pass inspection are taken to some one of the extremely numerous Community Centers. Here they are again gone over by the Doctorines and Eugenic Expertettes, who assure themselves that each and every Mans has had his tonsils, teeth and appendix removed. They are then given a short but intensive course in Marital Manners, and old experienced Mans teach them how to behave in the presence of their mistresses, how to lead gracefully at the end of a silver chain and see things without appearing to look around them. The heinousness of the crime of "sheiking" as it is called, i. e., the process of making "google eyes" at any female other than the lawful mistress, is pointed out to them and especial stress is laid upon the penalties which will follow any 'monkeyshining' (using, again, the peculiar but expressive American term) with Mamettes. Such measures are necessary, unfortunately, for the reason that it has been found quite impractical to debar the younger females from taking an extremely active part in political, business, professional, and social life. Most of the time, of course, they come in contact only with the harmless Mannies, but it not infrequently occurs that a Mans, having nothing particular to do, wanders from his Community Crib and—deprived of the watchful eye of his mistress—endeavors to become friendly with unattached females. The Seniles, however, were well aware of this inherent attribute of the Mans and a very efficient corps of Female Police (She-Dragons, they are termed) take care of such offenders. For the first offence, the Mans' head is shaved and he is muzzled; for the second, he is sent back to his Separate State for one year, and, if he is again taken out and again offends, he becomes a Mannie. They are very definite upon these points, those Americans.

Care of the Young

"The young are born in what are termed "Reception Reserves" and, as for many years there had been difficulty in preventing certain surviving Mans Doctors from being selected by Mas to attend them during this process, the Seniles enacted another statute making it a felony for any male to enter these places. Huge signs, 'No Progeny Delivered by Males,' are erected on the fronts of the buildings and armed She-Dragons are on duty constantly. Here, as elsewhere, Mas direct and Mannies perform the manual labor and menial tasks. Specially trained Mannies take charge of the progeny after the first month, and each and every hour administer a small flat wafer, composed of desiccated goat's milk, evaporated orange pulp, soy-bean flour and vita-vitamines obtained partly from the Jerusalem artichoke and partly from the liver of the common catfish. Each wafer contains a 'most extraordinary nutritive value' and, washed down by a dram of slightly sweetened water, affords all the essentials for the rapid growth of the infant. All children remain unclothed until the fifth year, thus insuring full oxygenation of the tissues. During this period, they are merely 'Its,' bearing upon abdomen and back a serial number by which they will be known and their 'performance' recorded until they go either to the 'Departure Depot' or meet death under unforeseen circumstances.

"Mothers among this strange people, it will be observed, cease to function as such one month after their child's birth, the State thereafter assuming full charge of its future. The duties and privileges of parentage as we know them do not exist, the full mental and physical energies of the Mas being required by the Community, and the Mans being merely an essential —but extremely annoying—factor in their scheme of life.

Wafting On

"By such procedure, and the 'Wafting On' process (which will be explained later), the American Communities are kept practically free

of the unfit, the chronically ill, the paupers and the aged. True, at this date, the 'Seniles'—as the Supreme Ruling body (or Senate) is called—consists entirely of aged Mas well past the child-bearing period, but, save for these and those reserved to fill vacancies as they occur in this august assembly, all aged Mas, Mans and Mannies are 'Wafted On' as soon as they become either permanently disabled or sixty years old. At this time (2023) there is a strong movement on foot to 'waft on' *everybody* at the sixtieth year. The more conservative Mas object to this, point to the past and state that, in the old Mans days, 'the Senate was, as it is now.' But the progressives come back with the argument that the World Moves and has improved very materially since the Mas became Mistresses of Human Destiny—in Advanced America.

"Further, they produce from the archives of the past clumsy looking masses of paper known to the ancients as Books and read therefrom statements attributed to a great Man's Physician to the effect that *'every man should be chloroformed when he reaches his fortieth year.'* 'If *that* was true in times past,' they cogently remark, 'we are humane indeed when we only Waft them On at sixty!' It would appear from the latest information obtainable that the Progressives will win out and a great 'Wafting On' take place. There are times when one is tempted to believe that such a procedure could be instituted even here with great advantage.

"The 'Wafting On' in American Communities is done at 'Departure Depots,' which usually face the Reception Reserves. To these depots are brought (or come) those who must waft. From the moment of their arrival, they are most tenderly treated by the Mas and Mannies in charge and, after being bathed and fed upon such delicacies as they may desire, are ushered into a flower-decked softly lighted hall. The most wonderful and soothing strains of music fill this apartment, and an exquisite perfume pervades the atmosphere. Here the senses are literally lulled to sleep and no one knows when the deadly cyanized Argon is turned on, each individual passing into the eternal sleep smiling and content. The bodies of the dead are subjected to certain chemical processes and various 'precious elements' recovered. As far as is known, these elements are employed in obtaining certain electronic vibrations which serve to give light, heat and motive power to the Communities. It is unquestionably the discovery of this mysterious principle which enables the Americans to float anywhere at will and also permits the illumination of a most extensive Community by a single light which resembles a miniature sun.

Futurist Surgery

"Another extraordinary thing the American Mas have developed is, the possibility of freezing *in vacuo* any part of the body and breaking it off without injury to the adjacent tissues or the loss of blood. At one 'separation,' which I managed to witness by bribing the Mannies serving as 'Repair Helpers,' the leg of a Mans was enclosed up to the middle third of the thigh in a metal sheath to which various wires and pipes were attached; taps were turned, switches thrown, and, in less than three minutes, the operating Doctorine snapped the whole apparatus quickly upwards and removed the extremity therewith, as one would break off an icicle! The stump was then treated with Nitronized Light waves and healed within twenty-four hours. As this was a very valuable Progenitor in the prime of life, and he had broken his leg while attempting to carry his Mistress over a muddy spot in the 'thro'-way', it is likely the Committee on Continuity would not insist upon his being Wafted On—for a few years at least. Indeed, this Mans was so peculiarly favored that I have reason to believe that certain Mamettes were permitted by corrupted Mannies to float into his 'Repair Crib' and hold his hand—or *hands*, perhaps, who knows? He had two of those."

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Just as I reached this point in Roundmouthus' observations, Haig, who had been "gazing" very deeply, upset the crystal, and the opportunity to gain further information was lost. On thinking things over, however, I am more than ever convinced that Things Won't Be the Same in a Hundred Years and that I am glad I'm not going to be here. It is disturbing, though—even terrifying—to think that one *might* be reincarnated and become a Mannie. I should hate that! Wouldn't you?

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from January issue, p. 61.*]

Ammonium Salicylate

Physiological effects: Similar to those of salicylic acid; but its action on the heart is less marked. It is a valuable antiseptic.

Therapeutics: Indications the same as for salicylic acid, sodium salicylate or lithium salicylate. It is useful in many febrile conditions accompanied by acidemia, intestinal fermentation, etc. Chronic bronchitis and pharyngitis are benefited; its less depressing cardiac action renders it better adapted to anemic subjects with weak heart action, as in the aged.

Dosage: 1/6 to 1 grain repeated as required to effect.

Anemonin

A peculiar camphor from the Anemone pulsatilla.

Physiological effects: Diminution of the frequency and strength of the heart beats, sometimes preceded by a period of excitement, slowing of respiration, stertorous breathing, sinking of temperature, nervous and muscular prostration.

Therapeutics: Adapted to the treatment of acute inflammations of the nasal, faucial and bronchial mucous membranes.

It is contraindicated in gastrointestinal cases. It has special action upon the generative function in women, increasing power and relaxing spasm. When given near the menstrual period, it produces an increased flow. It is especially useful in maladies of a general character which are accompanied by fear or great anxiety.

Dosage: 1/128 grain, every half hour in acute cases and every two to four hours in chronic conditions.

Antimony Arsenate

Physiological effects: Moderates the vitality and nutrition of the organs supplied by the pneumogastric nerve, and stimulates the secretion of the mucous glands. It relaxes vascular tension by combating excessive heart action.

Therapeutics: Useful in cardiac affections to slow and regulate the heart action, and in chronic bronchopulmonary diseases as an expectorant.

Dosage: 1/64 grain, one to two doses every hour as an expectorant, and from four to six doses daily in affections of the heart.

Apiol

A camphor from the oil of the Petroselinum sativum.

Physiological effects: Congests the pelvic viscera; stimulates secretion of all mucous membranes. Raises arterial pressure by increasing heart action and stimulation of the vasomotor centers in the medulla. Congests the uterus and increases mucous flow.

Therapeutics: Very useful in amenorrhea and dysmenorrhea, especially in anemic conditions; given in combination with iron.

Dosage: 1/64 grain, every half to two hours until effect.

Apomorphine

An artificial alkaloid obtained by the action of hydrochloric acid upon morphine contained in closed tube, and submitted to an elevated temperature, also by the action of chloride of zinc in solution on morphine.

Physiological effects: Either subcutaneously or by mouth, it produces emesis in from five to twenty minutes. The vomit is not, as a rule, preceded by sickness, and the stomach is fully evacuated with little or no effort. The pulse is slightly accelerated before emesis, followed by slight depression, with speedy return to normal. In exceptional cases, great prostration occurs after the emetic action, hence the advisability of using great care in administering to feeble persons and young children.

The respiration becomes quickened and irregular previous to vomiting and the temperature is not sensibly affected. The reliability of apomorphine as an emetic and its freedom from depression, in the greatest majority of cases, render it a highly useful agent whether used hypodermically or by mouth.

Therapeutics: Apomorphine is a very serviceable agent as an evacuant of the stomach,

especially in cases of poisoning; also, in bronchial and pulmonary affections of children, as an expectorant. In capillary bronchitis, associated with brucine, it renders excellent service as a respiratory tonic and expectorant, the action being enhanced by the combination.

Dosage: 1/64 grain every half hour as an expectorant. 1/12 to 1/6 grain, either by the mouth or hypodermically, as an emetic.

Apomorphine Hydrochloride

The same remarks as to physiology, therapy and dosage as given for Apomorphine apply here.

Arbutin

Glucoside from Uva ursi and other species of Arbutus.

Physiological effects: Increases the flow of urine, toning the mucosa and acting favorably upon the whole genitourinary system. It also, in a measure, affects the solids, increasing their elimination. It is strongly antiseptic. In large doses, it produces vomiting and purging, also inflammatory conditions of the mucous membrane of the bladder and urethra, accompanied by tenesmus and, often, a bloody discharge.

Therapeutics: Used as indicated to effect, it is one of our most useful remedies in renal congestion and irritation, cystitis, urethritis, specific or catarrhal, restraining the loss of albumin in nephritis, against pus in pyelitis, and all other forms of pyuria. Its uses are legion and the results gratifying.

Dosage: from 1/64 to 2½ grains, the preference being given to 1 grain repeated as required.

Arsenous Acid

A white crystalline mass and known as white arsenic.

Physiological effects: It combines directly with the red corpuscles of the blood, replacing the oxygen, hence the lessening of the metamorphosis of tissue, as demonstrated by the decrease in the amount of urea excreted and by the reduction of temperature. It increases and promotes the growth of epithelial cells.

It also produces a white, silvery, tongue. Irritation of the conjunctiva, swelling of the face, slight desquamation of the skin noticeable only with the aid of a magnifying glass, a brown dingy color of the skin in places protected from the light, are some of the characteristic effects of this agent in excessive doses. It is, however, a valuable restorative with efficient action on the blood and heat supply. In large doses, it is a corrosive, depressing poison.

Therapeutics: Useful in chloranemia, leucorrhea, atoxic, adynamic fevers, cholera, cachexias, purulent affections and in chronic scaly diseases of the skin. Also a very serviceable febrifuge, next to the cinchona salts, in malarial fevers. Acts beneficially in the treatment of eczema, also in pellagra and in chronic diseases of the liver and spleen. Recommended in some forms of sarcoma.

Dosage: 1/64 grain, after each meal, increased cautiously or reduced as individual tolerance and conditions demand.

Arsenous Bromide

Physiological effects: Same as preceding.

Therapeutics: Is a recognized alterative remedy in epilepsy and like convulsive conditions.

Dosage: 1/64 grain, three or four times daily, until the desired effect is obtained.

Arsenous Iodide

Physiological effects: Both of the elements contained act notably upon the eyes, and the irritation denoting full effect occurs more quickly than with any other preparation of either.

Therapeutics: Burggraeve utilized this salt in the treatment of the dry forms of skin diseases where the pores of the skin are obstructed and crusts or scales formed.

Waugh strongly recommended arsenic iodide in the treatment of arteriosclerosis and claimed most satisfactory results.

In the treatment of acute manifestations of syphilis, cerebral, ocular, nasal, etc., arsenic iodide (with mercury biniodide and iodoform) is much superior to potassium iodide, quicker and more powerful results being obtained.

Dosage: 1/64 grain, three or four times daily, and this may be continued indefinitely or until desired effect is realized.

Arsenic Sulphide

Physiological effects: Same as for arsenous acid.

Therapeutics: Its specific indications are for microbic infections, such as gonorrhea and, especially, in the rheumatism which at times accompanies it.

This salt of arsenic adds materially to the effects of calcium sulphide, as has been demonstrated in many cases.

Remarkable results have been obtained by the use of arsenous sulphide in acne and in many forms of skin diseases. In albuminuria, it will be found of signal service, the dose being continued to tolerance. Eczema of the dry and scaly variety will respond to arsenous sulphide, with saline elimination and a regulated diet.

In fact, its use may be extended to the whole range of maladies due to plasmodial parasites, such as, malaria and syphilis.

Dosage: 1/64 grain three or four times daily

after meals, increased or diminished as conditions require.

[*To be continued.*]

CARELESS SPEAKING AND WRITING

[*Concluded from p. 92*]

Still, we have seen typewritten pages that caused us to groan in despair, while pen-written communications have been submitted to us that were beautiful to behold and a joy to copy-edit. Be it said, that the ease with which manuscripts are copy-edited, (that is to say, made ready for the printer) stands in direct relation to their mechanical perfection. Well-written papers, properly spaced, typed or written carefully and in well-thought-out language, hardly ever require correction or improvement. In badly typed or written manuscripts, the language usually is found to be careless and slipshod; even grammar often is sinned against, and, altogether, the time and effort expended on their preparation are many times out of proportion to their usefulness.

It would be wrong to conclude that this relationship exists in every case. It happens that a man expresses a splendid and useful thought but in halting and even uncouth language. He may not have had the advantage of much schooling; but, he benefited from the lessons learned in the "University of Life". Such examples occur occasionally. They never arouse our ire or even our impatience. We are always glad to put the finishing touches to a manuscript that bears the evidences of real thought and of honest effort. It is the manifestly ill-considered, hasty or shoddy letters that, we believe, could be improved upon.

Painstaking effort always brings its own reward. The one benefited most from medical papers is the one who writes them. That is a truism that has impressed itself upon us many times.

To conclude an overlong preachment: We want papers and letters: Short, snappy, terse and concise. Let them contain one or two thoughts expressed briefly or elaborated, but employ simple language. Say what you have to say and then stop. If you can "type" them, well and good. Do so, double space, and we will thank you. If you write with pen and ink, write legibly, space sufficiently, and write on one side of the paper only.

THE SECRET OF CURE IN EPILEPSY

About the worst thing a physician can do is, to look upon any case as hopeless or incurable. I do not mean to refer to those cases where death is imminent and inevitable, but to those diseases that usually run a long course and almost invariably end in death. The doctor, who admits to himself that he has no chance of curing a patient, is certainly not going to study that case seriously, as he should. He is going to lose interest because he has no hope. He will give the routine remedies and rest his conscience as his patient drifts to the end.

The reason that more cures are not made in consumption, cancer, epilepsy, Bright's disease and other maladies is, because these cases are not studied individually but treated on general lines by physicians who have no faith in the ultimate results of their efforts. When I was a medical student, a mulatto girl of about eighteen years was brought to the college dispensary where I was assistant. Before she could tell what her ailment was, she threw up one arm and fell on the floor in a violent convulsion. While she was writhing and foaming at the mouth, the professor of obstetrics passed by and, without stopping, simply said: "Epilepsy—all you can do for her is to keep her saturated with bromide of potassium." This man was one of the brightest members of our faculty and was regarded as one of the ablest practitioners in the city.

I interpreted his suggestion as saying in so many words that these cases were practically incurable and not worth wasting time over in studying the causes of this distressing condition. My fellow-student in dispensary work was a middle-aged man whose medical education had been interrupted by four years of service in the Confederate army, and he was taking his last course and expected to graduate in a few months. He seemed disgusted at the indifferent manner in which our professor had spoken of the poor girl.

"That fellow's advice isn't worth considering," said he.

"Why not?" I asked him.

"Because he does not bring you anywhere—he does not tell you to try to cure her," he replied.

He put me to thinking; and we agreed to study her case and watch results. We learned that she had been having these seizures for about two years, several times during the month, but more frequently just before her menstrual periods. We found that she was a big eater, especially of meat, and a further examination revealed a caruncle at the urethral orifice. This was so sensitive that she was thrown into a convulsion from the manipu-

lation necessary to make the examination. We chloroformed her, cut out the caruncle and burned its base thoroughly. Then we put her on a limited diet, largely bread and milk, gave her moderate doses of sodium bromide for a few weeks and turned her loose, telling her to report once a week. She had two very slight seizures within the first ten days after the little operation, but there was no return of convulsions after this and, at the end of six months, we considered her cured.

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In the earlier years of my practice, I was appointed one of the city physicians to vaccinate a certain section. While vaccinating a colored family I noticed a girl of about eighteen or twenty fall backwards and hit the floor like a log. She had one of the hardest convulsions I ever witnessed, and it was nearly an hour before she regained consciousness. They told me that she had them every day or so, and asked me if I "reckoned I could do anything for her"? In spite of her frequent and severe attacks, she was a bright, intelligent looking girl. She had been given bromides until she was thoroughly brominized, and I concluded to look for the cause. I found that she had scars in the groin where a bubo had suppurated and healed; she had mucous patches in her mouth, and the characteristic plaques on the tongue; also, she suffered from severe attacks of hemicrania. I gave her tonic doses of bichloride of mercury and all the iodide of potassium that she could possibly carry. In a month's time, her attacks were very few and very mild and, at the end of five months, they had left her entirely. I know that she went several years without a return, when I lost sight of her. I attributed her cure to the possible absorption of gumma in brain or cord.

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I was called to set a boy's broken arm from a fall from a cherry tree. While I was adjusting the fragments, he went into a convulsion. They told me that he had a fit while up the tree, which caused him to fall; and that he had them very often. I was unable to find any exciting or remote cause for these attacks. However, like most epileptics, he was an imprudent eater—an overfeeder. I cut his diet down in quantity and quality, kept him hungry, mostly on a bread and milk diet, and gave him a saline laxative two or three times a week. About this time, I received some literature from a manufacturing drug house relating some wonderful results in epilepsy with a form of hydrocyanate of iron of their special make. Without noting any special indication for the use of this remedy, except the possibility of tranquilizing the circulation and enriching the blood, I put him on it and kept him on it for six months. From the first, his seizures became less and less frequent, and he was entirely cured and remained so under an observation of several years.

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About five years ago, a young man about twenty-seven years of age applied to me because of epileptoid attacks of two years' duration. He was employed by one of the railroad companies here, in some such capacity as wood worker, painter or some inside work. He appeared to be in splendid physical condition; but, on account of frequent attacks, he had given up his work and resolved to seek relief, if anything could be done for him. After careful examination, I could find no special indication to be met except to just overpower the system with such specifics as the bromides and similar depressants, which actually had done him more harm than good. I noticed that his pulse was soft and very compressible, and that he would have occasionally a minute or two of sudden bradycardia.

He would generally have an aura, which manifested itself as a sudden fear and faintness, when he would fall unconscious and become violently convulsed. It occurred to me that these attacks came on from sudden anemia of the brain, and I was put on the right track, one day, by a casual remark he made, that he "never had a fit when he was a regular drinker." He was a married man and suddenly quit his three or four drinks a day to please his wife, though he had never been a drunkard nor apparently affected by what he drank.

This proved to be one of the most interesting, instructive and satisfactory cases of epilepsy that I ever treated. The patient had two things in his favor: A warning and, usually, a little time to do something to ward off the attacks. He could often anticipate the advent of a convulsion considerably in advance by reason of a strange, foolish and helpless feeling —"tired in the head," as he expressed it. I directed my efforts entirely to improving and stabilizing the circulation. My treatment in a nutshell was: A generous diet, tablets of Triple Arsenates with Nuclein, three times a day and long continued; tablets Tr. Strophanthus, 2 minims, three or four times a day. Pearls of Amyl Nitrite for emergencies, and tablets of glonoin always in the vest pocket, where he had time to slip one under the tongue, were given him. Further (now, don't you pro-

hibitionists cuss me out!), I told him, whenever he felt that slowly advancing weak feeling approaching, to take a stiff drink of whisky, and another if he needed it, until he had a head full of blood and felt right. This man did not abuse my advice; he used very little whisky and only under the threatening conditions; but, for the past four years, he has been well and happy, making fine wages and taking good care of a good wife and a pair of fine youngsters. I feel about giving this man whisky somewhat like the fellow did who, when told by his pastor that whisky killed more men than bullets, replied that, while that *might* be true, he himself had "rather be filled with whisky than bullets"!

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One of the most remarkable cures of this terrible affliction was in the person of a young woman who married contrary to my advice and that of her parents and friends. For the first two or three months after marriage, she had a few convulsions; but, as pregnancy advanced they ceased to appear and she actually passed through her confinement without puerperal or epileptic convulsions and "ever after was well and happy".

An old medical friend, to whom I related this case, said: "I'll bet a dollar that, if her clitoris had been amputated, her convulsions would have been cured."

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I wish to emphasize one or two points. Epilepsy should not be regarded as a disease to be treated as such, but as an evidence of some fault that must be found and corrected.

No case should be abandoned as hopeless. Keep looking and groping for light.

Where you are kept guessing, use Solanine Hydrochloride in conjunction with verbenoid, and you will often hit the mark, though you may not see what you are shooting at.

C. A. Bryce.

Richmond, Va.

IN OUR GRANDMOTHERS' DAYS
Being Almost an Autobiography

As I sit tonight by the study fire, with the wind moaning a requiem to the dying year and with the sleet storm beating a weird tatoo on the window panes, my memory has been busy with the scenes of the long ago. I see a train of white-topped wagons toiling slowly across the western plains following the dim trail toward the evening sunset. Day after day, week after week, month following month, I see them winding through the valley of the Platte, across the Laramie hills, on through the mountain pass, across the gray sage plains of southern Idaho, topping the Blue mountains of Oregon, to finally halt beside a clear stream, just as the early November snows are powdering the hillsides.

It was an eventful trip, one fraught with many strange experiences. I still vividly recall the first herd of buffalo rolling across the sandy shallows of the Platte; the excitement and bustle of preparation as the teams were turned aside from the road, the horses outspanned, the hasty saddling, the flourish of arms and the rattle of the hoofs on the dry ground as the horsemen sped away to replenish our (by now) scanty larder. Then, too, the sight of the antelope bounding away like huge animated cotton balls, to turn when they were safe from pursuit and gaze at the passing train. And our first sight of Indians. A few miserable remnants of a once powerful people, mounted on half-starved cayuses, clad in cast-off garments of civilization, gathering about the evening camp fire, begging for something to keep body and soul together.

Then, our first sight of the Rocky mountains towering majestically in our path. It seemed as though we could never surmount them, and, how they grew daily less imposing as we climbed the almost imperceptible slopes that led us up to the very summit.

Perhaps the thing that impressed me, a child, most was, the crossing of the great Snake river plains in southern Idaho. Miles after miles of dull gray sage, peopled only by sage grouse and by immense jack rabbits. Then came the lava fields with the "Oregon Trail" winding in and out among them like a never-ending serpent. The crossing of the Snake was in that day quite as hazardous as pictured in "The Covered Wagon", and many a toil-worn emigrant, his journey's end almost in sight, lost his life in the boiling whirlpool below the ford.

In Oregon

Perhaps in all that long and toilsome journey, no sight was calculated to gladden the eye more than the valley of the Grande Ronde in Oregon, just east of the Blue mountains. A great round level mead, surrounded on all sides but one by lofty, pine-covered mountains, a beautiful trout-laden stream wandering at will through the tall grass, here and there small herds of stock grazing, now and then a log farm house; occasionally a frontier hamlet. It took us four days to traverse this Elysium, four days for us children of scampering along the stream, exploring the hill-

sides, dipping into the dense groves of cottonwood in search of childish adventure, to assemble around the campfire at night and chatter over the day's happenings. Then on across the Blue ridge and the little town of Pendleton, a few miles beyond which was our destination.

One morning, about ten o'clock, we mounted a rather steep hill and looked down into a narrow valley with a log house, sheep corrals, barns and hay stacks in the foreground. Great herds of sheep were scattered over the surrounding scenery, biting shorter the short bunch grass, their herder standing in statuesque pose upon some overlooking promontory, his faithful herd dogs crouched at his feet. As the wagon train pulled down the dusty road toward the cabin, a woman in a check gingham dress and a blue sunbonnet came running to the gate waving her kitchen apron in token of welcome. Thus we came to Oregon.

Somewhere on the road, during the latter end of the journey, we contracted measles and, very soon after landing, all those who were not immune came down with the disease. The sheep yards were near at hand, so there was no dearth of the sovereign household remedy. I very distinctly recall that, even then, my soul rebelled against such treatment and I positively refused to drink anything hot during my entire illness. I also recall that the others were not so fastidious about their diet, but obligingly swigged teas concocted from the droppings of the sheepfold with, I suppose, great gusto. At any rate, they all recovered.

An Indian Scare

The winter that followed was uneventful. There were no schools, no churches, no society, nothing but the endless stretches of snow, plain with bands of sheep wandering over it; the sole industry, tending the sheep or cutting sage brush and dry willows to keep the fire going.

Spring came and unlocked the streams, melted the snows and sent them scurrying down the steep hillsides, a brown flood. It was a typical eastern Oregon spring, with days of bright warm sunshine mingled with flurries of snow and blustering winds. It was on such a day as this that a cowboy rode up to the gate, his horse a lather of foam, called father out and spoke hurriedly to him, put spurs to his horse and disappeared. That night, father held conference with the other men around the heating stove, after we children were in bed and supposedly sound asleep. They spoke in low tones and I could not overhear what they said, but I realized that there was something amiss.

Lost in a Blizzard

It was a part of my daily task to carry a warm noon lunch to one of the herders, who usually worked his charges down to the brink of the canyon, at midday, for that purpose. On this day, I took the lunch bucket and set out, climbed the rocky sides of the canyon to the level mesa. The herd was nowhere in sight. I set out in the direction indicated by their tracks, in the hope of soon overtaking them. I had not proceeded more than half a mile, when the sky became overcast and a snowstorm came hurtling up out of the southwest, filling the air with blinding flakes, obliterating the sheep trail I was following, shutting out the entire world save where I stood. I wandered aimlessly on, hopelessly lost. All afternoon, the storm howled over the mesa. I tried to track myself back, but soon gave it up as a hopeless task, as my footprints had long since been covered with snow. It began to grow dusk, as the sky somewhat cleared.

I was near the old Three Rock Indian trail when, chancing to look up, I saw a band of horsemen coming down the trail. One glance told me that they were Indians, different from any Indians I had ever seen. Riding ahead, were the warriors decked out in all their savage panoply of battle, while behind came the women and children driving the pack animals. Like a flash, came back to me the conversation of the night before around the stove fire. The visit of the cowboy was now explained: The Indians were on the warpath and this was the advance guard. They had not seen me and instinctively I sought shelter. Not far away, was a rocky arroyo into which I plunged, hiding behind the tumuli of lava rock. The band passed on and was lost in the distance before I ventured forth.

Night came, night on the habitless prairie. It was bitterly cold, and I had heard of people lying down in the snow never to arise; so, I kept on. I was hungry, for I had long since thrown the lunch pail away. After what seemed hours, I stumbled into a rocky gulch and was too weary to climb back out again. Then, too, I had a dim notion that, by following down the gulch it would bring me to the stream. After what seemed other hours I reached the point where the gulch debouched upon the stream. A light flashed in the distance and a dog barked. I hastened toward the light, to be met by the baying and snarling of a horde of dogs. Then the dim outlines of a row of tepees loomed through the darkness, and I knew that I was approaching an encampment of Indians, perhaps the same ones I had

seen in the afternoon. I turned to flee back into the protecting arms of the darkness, tripped over a picket rope and fell sprawling. By this time, there was a horde of Indian dogs snapping and baying at me where I lay. The dogs formed a cordon about me, and escape was impossible. Light flashed in the tepees, and the sound of running feet. The form of an Indian towered above me, I felt myself seized and dragged to my feet.

Indian Hospitality

Just why I did not faint from terror, I do not know; perhaps we were not of the fainting tribe. From all that I had read, I expected to be scalped; but no such thing happened. The Indian who held me was joined by his companions and they held a guttural council over me. My captor led me toward the tepees and, in a short time, I found myself seated on a couch of skins before a warm fire. An Indian woman busied herself warming over a stew left from their own evening meal, which she presented to me. Instinctively, I knew that the savages intended me no harm, so I fell upon the savory stew like a famished wolf. The warmth and the full meal soon did their work. I curled up on the robes and fell asleep. Early next morning, mounted behind my friendly captor, we proceeded down the stream. In an hour, I began to recognize familiar objects and, shortly, saw the ranch house with the morning smoke curling from its chimney. There was much stir about the place, men on horseback coming and going in great haste. The Indian rode up to the gate and called to the men assembled in the yard. Fortunately, one of them knew enough of the Indian tongue to make out that the Indian was returning the lost boy. Not waiting for thanks, my late host turned and rode back up the valley. So ended my captivity, which was not much of a captivity, after all. The Indians proceeded on into Idaho where, a few weeks later, they devastated the frontier.

CHAS. S. MOODY.

Menan, Idaho.

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[Doctor Moody's reminiscences are vastly interesting, entertaining and filled with truly American romance. We are certain that our readers are enjoying them as greatly as we are. Also, we sincerely hope that Doctor Moody will continue them—as long as he has anything to relate. Unless we are much mistaken, that will be for a long time; for, the doctor has lived a very active life among those far-western mountains and plains where there was much hard work, and also romance.—ED.]

TUBERCULOSIS IN MEXICO; PULQUE, ETC.

You virtually command me to tell you something about my tuberculosis work. It does not shock my sensitive nature to be commanded; once upon a time I got used to that. However, it takes a "Regular" (like Shakespeare) to write something about nothing.

I don't mean that the "White Plague" amounts to nothing; but it is what the general run of men know about it. All search for knowledge on the subject is supposed to be, the making of efforts to reach a goal, the cure. Thus far we have never reached it. After much writing, after wrestling with research and experimentation, we are still paddling around in rather a rough sea; but not hopelessly so.

All efforts are well founded. Had no man ever made an effort in any process of life, we should today probably be far behind Adam and his beloved wife when they resided in the Garden of Eden. I feel the sting of compliment (Blush) when you ask (?) me to tell you something about this part of my work. When Rip Van Winkle woke from his nap, I believe the first words he said were: "The World Do Move." All matter is in a state of unrest. This is true of this earth as well as of the whole universe of planets. Space is full of flying stuff which travels at a tremendous rate of speed. When Abraham Lincoln was residing in the White House, a few millions of dollars was a good big sum of money; but Mr. Harding uses it by the billions, and is just as short of money as was Mr. Lincoln. Why? Because everything is now entirely different. Not the true life-conditions from a chemical viewpoint, but the *"circumstances."* With all this rapidity, and with the National Tuberculosis Association to help, we naturally look for better stuff in the near future.

Mexico has not kept pace with the balance of the World in its development into a strenuous nation; because the masses of the people live according to the lines of least resistance. It surely requires effort on the part of the individual to acquire efficiency. If a problem meets you, and you meet it, whether you *win out or lose out,* you still are winner. This makes good exercise for the "skull-marrow" and you are the better fitted for the next problem.

Allow me to say here, that I often wish men would publish their mistakes as much as they do their successes. Errors are expensive, sometimes, but they are worth the money. Life in

Mexico is too easy to be conducive to the development of an aggressive community. The people want to be "Just let alone".

Tuberculosis is the bane of the Mexican masses. The reason for this is not that they are different from others of God's make, but owing to their methods. The houses are of the adobe kind, with one door and no windows. At night, the door is shut and the family sleeps in a carbon dioxide atmosphere for most of the night. If one member has tuberculosis, it is just the same as if he did not; they sleep in blissful ignorance. Another cause for tuberculosis in Mexico is owing to these years of revolutions. War! The masses of the people have not had sufficient food. Not all the time, but many times. Their bodies did not develop the proper resistance. War produces a psychologic effect, also, that tends to reduce the resistance of the body to ward off germ-diseases.

To this date, there is no specific treatment for tuberculosis, as every well-read doctor knows. For treatment, we depend on nature to help us out. However, the doctor is very useful in directing properly indicated remedies in accordance with the symptoms. I do the same thing here in Mexico, having proper climatic conditions to help.

Saltillo probably has one of the best climates in the world for treating patients with pulmonary tuberculosis. But, climate alone will not cure all cases of pulmonary tuberculosis. The patient must make a business of his cure, he must have rest of mind and body. He must take hold of himself early (before he is dead) and make a systematic *pull* for his life. He must have sufficient funds to meet the requirements, then battle with the forces of the body against the attack of the disease, under the supervision of a physician.

Agua Miel

In this climate, with well selected cases, the help of good food, proper rest, proper exercise, we do not dread pulmonary tuberculosis. Another thing: We have plenty of Pulque, the fermented juice of Maguey, or century plant. This juice is obtained by plunging a long needle attached to a syringe into the heart of the plant and extracting it by suction. Each plant produces about eight ounces every ten days after it becomes of bearing age (about 10 years old) and continues to produce for about 10 years. This juice, when fresh, is called *Agua Miel* (Honey-Water), and is more susceptible to fermentation than is sweet milk. It carries its own *vitamines* and yeast. The quantity of fresh juice to be taken one day, if kept at about 90 degrees Fahr. for 24-hours, will contain about 8% alcohol, and this without the addition of any kind of yeast. What other liquid in the world will do that? That amount of alcohol is sufficient to stop the fermentative process, and, if pushed to the proper amount of consumption will produce intoxication. The taste is not very different from that of hard cider, but sweeter, because the fermentation is stopped before all the sugar is used up. It looks like well-made "Chock"; which is a fermented drink made by most Coal-miners in the United States (home-brew). Pulque is also highly nutritious, even barring the 8% alcohol. It sells on the streets for about ten cents per quart, by *venderos* who carry two wooden bucketsful on the end of a stick, like the Chinese carry water. After the needle, with which the juice is extracted from the plant, is taken out, the hole is closed up with a little ball of wax about the size of the end of the finger and resembling gum Arabic. A plantation with 10,000 bearing plants will produce about 60 gallons of juice per day, which is worth about $20.00 U. S. Currency ($7,300 per year). The plants are set about 10-feet apart.

For my patients, I mix about 3-parts of pulque and one part of Agua Miel, which makes the sweeter drink. Add a little ice, if they want it. In this climate, we use very little ice as we do not feel the need of it. You will understand this pulque is not a treatment for tuberculosis, but only a food-stimulant when you need one, and the very best alcohol-bearing substance that I have ever seen.

Pulmonary hemorrhage is best controlled by the use of emetine in large doses (1 grain) intravenously. You get the direct astringent action on the open vessel in the lungs. I give it pretty quickly, so as to get the full force of this astringent action. Only a few times the patient says: "I am getting blind". Then I order him to shut his eyes. Don't use these large doses except with the patient in the recumbent position, for you very probably would have syncope follow its action on the brain. In the recumbent position, the patient always retains consciousness and you just have to do a little talking to keep him from getting excited. For a tonic to aid metabolism, nothing has given me better service than iron cacodylate and sodium cacodylate with nuclein. With high acidity, you will get good service from a combination of sodium salicylate, guiacol in Locke's solution, more especially in cases with asthmatic symptoms.

I try to keep my patients happy. Give them plenty of sunshine, and every day have them take a little hammer and a pocketful of nuts,

go in the garden to crack and eat. The patient must be free from financial worry. Living expenses here will not exceed $150 U. S. Currency per month. We use the best imported foods, with some native fruits and vegetables. We have plenty of good rich milk and the best American butter obtainable (Falfurrias, Texas) with numerous American canned goods. In fact, we live as well as you do in Chicago.

If the patient is not too far gone, he may just as well forget that he has tuberculosis and build for himself a future, provided the disease has not extended to the glands. Then all climates are equal. Climate benefits tuberculosis of the lungs the most.

If the thyroids are subnormal, good results can be obtained by the use of desiccated thyroids or others of the hormones that will aid nutrition.

T. H. Standlee.
Dispensario del Sanatorio Americano,
Calle Morelos No. 15, Saltillo, Mex.

THE "CURE" OF TUBERCULOSIS

In an article published elsewhere in this issue of Clinical Medicine (p. 143), Dr. T. H. Standlee, of Saltillo, Mexico, says that "all search for knowledge on the subject (of tuberculosis) is supposed to be, the making of efforts to reach a goal, the cure. Thus far, we have never reached it. After much writing, after wrestling with research and experimentation, we are still paddling around in rather a rough sea; but not hopelessly so."

The "cure" of tuberculosis is a topic that is discussed daily in numerous articles in periodical and in book literature. The expression is indulged in not only by laymen but also by physicians who might be expected to realize that its employment gives rise to mistaken ideas. When we speak of a cure for a disease, we refer to something by which this disease can be eradicated and its victim, the patient, restored to health. The proper employment of quinine will eradicate the plasmodia malariæ from the circulating blood and will bring about a "cure" of the malaria patient. The administration of mercury and of an arsphenamine preparation, in proper manner, will free the luetic patient of his infection with a fair expectation that his cure will prove lasting.

While these are of the most important instances of chemotherapeutic "specific" remedies, bacterial therapy has introduced homologous preparations in the form of bacterial vaccines (bacterins) which, being specific etiologically, clearly tend to overcome the cause of disease in so far as it relates to the causative virus. In that respect, the treatment may be designated as specific even though it is never wise or safe to rely upon it alone. The physician may never lose sight of the fact that an infectious disease does not develop merely in consequence of the related infection; that is to say, of the localization of a pathogenic virus; but that the soil must be receptive. Therefore, in addition to the "specific" bacterin which stimulates the active production of a specific immunity against it, it also is necessary to increase the organic resistance to bacterial harm, to improve the "tone" of the system; in other words, to strengthen the organism.

When we come to speak of *a cure* or THE *cure* for tuberculosis, the subject becomes even more complicated and involved. Not only is it necessary to sustain and strengthen the organism of the patient afflicted with tuberculosis, and not only is it wise (in certain selected cases) to stimulate the active production of an immunity by means of specific tubercle-bacillus preparations, vaccines, bacterins, such as one or the other of the tuberculin preparations, but it may become advisable and appropriate to resort to actual chemotherapeutic remedies, such as the copper preparations that were investigated some ten years ago, or like certain gentian dyes which recently have been praised as being very useful.

In addition to all this, it is necessary to reckon with the fact that clinical tuberculosis, at least of the lungs, is virtually never an uncomplicated bacterial disease in which only the tubercle bacillus is concerned. In all cases of pulmonary tuberculosis, with positive sputum as to tubercle bacilli, there are also found numerous associated bacteria and cocci which exert their injurious effects upon the tissue of lungs and bronchi and, indeed, many times do far more harm than the tubercle bacilli themselves.

In addition therefore, to the general tonic and supporting treatment and in addition to an active immunization against the tubercle bacillus by means of a suitable tuberculin preparation, it may become desirable or advisable to employ "specific" treatment, that is to say, a specific bacterin against the associated infection. This may be administered in the form of a stock bacterin based upon the bacteriological diagnosis, or an autogenous bacterin may be prepared for the particular case. It stands to reason that all these various methods of treatment must be adjusted and arranged with due consideration for the peculiarities of the patient. It would not do very often to administer

tuberculin and autogenous or stock bacterin simultaneously. That might mean crowding reactions and, thereby, doing harm; in other words, producing serious irritation instead of a wholesome stimulation.

It is because of this multiple bacteriology, that is active in cases of clinical pulmonary tuberculosis, that it is futile to look toward any one agent that may be counted upon to *cure* the greater proportion of cases of that disease. We believe that, in tuberculosis more than in any other disease, the personal equation, the individual pecularities of the patient are of a remarkably great importance. It will never be sufficient to administer any one certain treatment to all patients, merely with increased or diminished doses. It always will be urgently necessary to study the patient individually and to select from among a variety of remedies those that seem to be indicated more clearly in this particular case or that are found through therapeutic experimentation to produce the most satisfactory results.

The cure of tuberculosis does not consist in any one remedy. It consists in a large variety of remedial agents out of which a certain number, more or less, has to be selected for the case in hand, and it must invariably be supplemented by rigid observance of the requirements of the organism as to toning up, strengthening, feeding and eliminating. A tuberculous patient whose nutrition is raised to normal has a far better chance of recovery than the one who is persistently below weight. By normal nutrition, we do not mean merely the accumulation of weight; be it well understood. We mean the ingestion, digestion and assimilation of enough nutriment to increase weight, to be sure, but we also mean the full elimination of all waste products, the avoidance of every trace of intestinal autointoxication or of perverted body chemistry.

While "the cure" of tuberculosis is an exceedingly abstruse and difficult problem, it also is one of the most encouraging tasks before us, judging from the actual results that have been attained in the course of the last ten and fifteen years of effort.

MISTAKES IN DIAGNOSIS
A Case of Acidity

The following case report should prove instructive, in as much as several physicians of standing have treated the patient during a period of over three years. One of them, getting no benefit from injections of an immune serum, recommended opening the antrum. All treatment administered had been based on the theory that an infection was present, especially erysipelas.

Before the birth of the child, the mother was in an extremely neurasthenic condition. At birth, the baby weighed four pounds. At the age of nearly one year, it was treated for digestive upset, being the subject of the case reported in an article I wrote on infantile diarrhea. When almost three years old, the girl had an attack of what seemed to be facial erysipelas. The redness and swelling misled me. Mistakes are often made through insufficient study of a case. However, there was not then, nor in subsequent attacks, any fever to speak of, nor was pain or soreness manifest; for that reason, the attack was probably not erysipelas. Since then, recurrences have been erroneously diagnosed in the same manner by other physicians.

During the following year, the fourth of her life, this girl was treated by several physicians for her frequent attacks of swelling of the face. The left side of her face always was slightly puffy, even during periods of well being. All the treatments that were administered were mostly, if not entirely, based upon the idea of a germ infection being present.

In November 1920, when the girl was six years and seven months old, I accepted her again as a patient. She was forty inches in height, weighed thirty-four pounds and had a pinched face, indicating digestive disturbances of long duration. The left side of her face was swollen as far as her upper lip, and slightly reddened. There were sordes on the lip, vesicles on the palate and the teeth were decaying: all phenomena that might be expected from an acid saliva which probably was seldom alkaline. The buccal mucous membrane showed dark red, almost purple in color, on the left side. The openings of Steno's ducts were large, the mucous membrane lining protruding. The parents informed me that the swelling on the face usually started as a red spot in the center of the cheek and then extended; but without pain or soreness. The stools were never normal, they were dark and frequently loose. The urine was not examined.

The patient was put upon liquor calcis with the addition, sometimes, of a few grains of potassium and sodium hydroxide—because of my opinion that a free alkali is better than a salt. Enzymes were prescribed to aid digestion. In a month's time, the mouth was normal in color. There were no sordes; there had been no swelling of the face since this treatment has been begun. For four months, treatment was continued regularly and there was

no evidence of any trouble. The child showed manifest gain.

Then treatment was interrupted for over four weeks. The patient ate foods that were likely to cause her trouble to recur and, at the end of four weeks, she had a severe attack. The tongue, rather pale, was so swollen that it could not be protruded. The swelling on the left side of her face, slightly reddened, extended to the forehead. The bowels were loose. The urine, with the tincture of iron test, turned dark magenta in color; but this reaction did not occur with boiling urine.

The patient was put on tablespoonful doses of liquor calcis every hour and two teaspoonfuls of sodium bicarbonate to be given during the day and not together with the lime water, as this might form calcium carbonate. In order to aid digestion, enzymes were given several times during the day and with the food. All evidence of the trouble disappeared within a few days.

For over a year subsequently, the patient was treated frequently, whenever slight evidences of the disturbances presented but before swelling of any kind appeared. Severe attacks were always prevented.

Thinking that more might be done, the patient was taken, in October 1922, to Rochester, Minn., where it was believed that an infection, probably erysipelas, was the cause of the affection. The treatment outlined there was followed for over two months. However, very soon the face showed a return of the malady and the child had a most severe attack, the swelling involving both sides of her face which was somewhat reddened, nearly closing one eye. There were sordes on the lips, the bowels loose.

Put again upon liquor calcis, sodium bicarbonate and enzymes, the child recovered promptly, the face showed but little redness and swelling beneath the eye on the morning of the third day.

The administration of alkalies only and that of the enzymes alone did not produce as prompt benefits as followed the administration of both combined. These substances are the only remedies that were successful in this case. I am convinced that the affection is not an urticaria, since wheals never appeared. The people who, in early childhood, have suffered long from disordered digestion are apt to be dyspeptic when grown. This girl will, in all probability, require occasional treatment, and it would be best if she would not stop treatment entirely until there is manifest evidence that she no longer requires it.

I have had three cases of cancrum oris. In two, the teeth could be seen through the ulcerated cheeks. Under tonic treatment and with suitable digestives, healing was not long deferred. These cases, considered together with the symptoms in the girl whose case I have described, namely, the dark red peculiar membrane and swollen openings of Steno's duct, the fact that the swelling of the face usually starts as a red spot in the center of the cheek—all these things suggest to me that noma of the cheek may be due to a condition similar to that responsible for this girl's affection.

A. A. Radcliffe.

Waukegan, Ill.

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[The autotoxic nature of the attacks which Dr. Radcliffe described so graphically, and which are manifestly of gastrointestinal origin, is so evident as to be beyond discussion. While the wheals, characteristic of urticaria, are absent, and while itching seemingly was not complained of, it may be said that urticaria is not the only consequence, upon the skin, of gastrointestinal autointoxication, and that this may be affected in other ways. Combe ("Intestinal Auto-Intoxication") explains the process so that, in traversing the derma and the glands, the abnormal principles (viz., substances of digestive origin which are excreted by the skin) create spots of less resistance and these are promptly invaded by the microorganisms of the skin. According to Calsé, Combe adds, the impression of these principles upon the cutaneous nerves is the cause of the vasomotor edemas (angioneurotic edemas, etc.). Come to think of it, the symptoms outlined by Dr. Radcliffe may well be taken as those of an angioneurotic edema. However, the name is of less importance than is the treatment which, of course, consists mainly in correcting the insufficient digestion, the faulty assimilation and the lessened excretion through the primæ viæ, on account of which the skin is overloaded and suffers harm.

Dr. Radcliffe's success with his antacid and digestant remedies supplies a therapeutic experiment which is convincing because of its invariable success. We are happy to be able to publish this interesting report. It contains several highly instructive lessons.—Ed.]

LOCATION FOR DENTIST IN MEXICO

I want a dentist, because there is work to do here, and I am tired of doing dental surgery. One who can deliver the goods. He must have the very best equipment that can be

obtained. A man who is Now a success and would like to make a change, or one who WILL be a success. A man who has failed to make good and is looking for something easy is not needed or wanted.

City of 63,000 population and three dentists! Instead of pushing their business, the business pushes them. One American here, and a good one. It will cost you about $125.00 per month to do business. Better have at least $1,000 to operate on until you get fully going.

There is no take-off in this matter for me and, if you can qualify, better come and look at the proposition. If you write, send me 10 cents in stamps for reply. It only costs 2 cents for you to write me, but we pay 10 cents to write to anybody here or in any foreign country.

Business is CASH here, or you lose your work and material, because very few Mexicans will pay a bill. (See CLIN. MED., Dec. 1922, p. 935.)

I will help you to get started and advertised, but your business will be independent of mine. My word is known to be worth 100 percent; therefore I cannot afford to take up anyone unless he is perfectly competent in ability and equipment.

T. H. Standlee, M. D.

Calle Morelos No. 15,
Saltillo, Coah. Mex.

A GOOD LOCATION

We are informed that there is a fair opening for a good physician in Godfrey, Illinois.

FOR THE "LITTLE BROWN BROTHERS"

Aparri is situated on the extreme northern coast of Luzon and, with its adjacent barrios, has a population of about 25,000. Naturally, there are many young people, many of them students and teachers in the Intermediate School. Outside the school, there are only three places of amusements in the town; two dance halls and one cinema. The majority of the houses are too small for any attempts at entertainment among the young people in their homes. So, there is an urgent need for a reading and recreation room. This matter has been discussed with our young people, and they are very enthusiastic about raising funds for a small building, but we must depend upon our friends in the States to furnish us with reading material. Of course, we would greatly appreciate financial aid, also, as at best there is little money here. The Methodist boys are willing to help erect a building, if we can raise enough money to buy materials.

Our work is primarily medical, but, as there are no other missionaries within a day's journey, the spiritual and social welfare of our young people naturally comes under our supervision. We entertain in our homes as much as possible; however, as our home is directly over the hospital wards, it is not always wise and convenient to have a live bunch upstairs. We are much concerned that they have clean reading and clean social entertainments, as the future of the Philippine Islands depends upon keeping these young people interested, and they are always hunting for books and magazines.

We hope that this situation will appeal to you, as it does to us, and that each and every one that reads this plea will answer it with either books or magazines (postage and freight prepaid) or subscription for periodicals and magazines. Do not send us anything that you would not have your sons, daughters, brothers or sisters read and, so far as possible, send books in good repair, so that they can be properly catalogued. Books of travel, Alger and Henty books, Boy Scouts books, etc., are eagerly read. Any of the numerous magazines for boys and girls and any or all of the current magazines and educational journals for the teachers and older people are suitable. We have tried to interest the Y. M. C. A. in this work; but, owing to the fact that there is no high school here, they are not in position to aid in the matter.

Address:

O. G. TAYLOR, M. D.

Aparri, Cagayan,
Philippine Islands.

[The care of our "little brown brothers" in the Philippines, "in every way" naturally includes mental pabulum, such as that which Dr. Taylor asks of us. We believe that all of us have duplicate copies of good books, also files of magazines, and even books of which we have no duplicate copies but which we no longer need to keep. All such reading matter will be welcome. *Nota bene,* only such as we would unhesitatingly permit son or daughter, brother or sister to read.

Besides, the Good Wife will be delighted to make a clean sweep of that accumulation of magazines and other good reading matter that one does not care to *throw* away and which, yet, is greatly in the way. Here is a good way to set it to work where it may accomplish further good. Let us make up a package, each one of us, and send it on.—Ed.]

THE ANTHRAX CONFERENCE

Dr. M. Dorset, of the Bureau of Animal Industry, United States Department of Agriculture, recently returned from London where, on December 5, he attended, in an unofficial and consultative capacity, a meeting of the International Advisory Committee on the Prevention of Anthrax, a committee made up of delegates from England, India, Australia, Italy, Sweden, Germany, France, Union of South Africa, and Belgium. This body, which reports to the International Labor Office of the League of Nations, has for its principal object the study of methods of disinfecting wool, hides, hair, and similar products so as to protect workmen from the danger of infection with anthrax, a fatal blood disease of many domestic animals which is also very dangerous to humans and is sometimes known as "wool sorters' disease."

England has been particularly active in taking steps to eliminate the danger of infection of workmen in wool-handling establishments, and the committee agreed that for wool the English method seems to be effective. Those who attended the conference were taken to Liverpool at the expense of the British Government to inspect a large disinfecting plant constructed at a cost of $750,000. The cost of disinfecting wool brought into the country is said to be approximately 3 cents a pound.

The Committee decided that, in addition to disinfection precautions, it is advisable to prepare a list of countries from which wool can be imported with safety without disinfection. It was recommended that hair and bristles always be disinfected and that, under certain conditions, wool should be. In making up the list of countries from which wool can be admitted with safety without disinfection, it was suggested that the decision should be based upon the prevalence of cases of human anthrax in industries, the occurrence of the bacilli in products, and the precautions that are taken by the various countries to prevent the spread of the disease among animals.

Although wool can be disinfected successfully, no method has yet been devised whereby hides and skins can be effectively treated without damaging them, and it seems advisable, according to resolutions adopted by the Committee, for all countries concerned to make efforts to discover a suitable method.

So far, there seems to be little cause for alarm over the danger of anthrax to workers in the United States. The best figures available show that, in the 8 years up to and including 1917, there were only 222 deaths of humans from anthrax in this country. Of these, only about 25 or 30 percent were in industrial workers. About 20 percent of the deaths during this period were in farmers, who became infected in most cases as a result of skinning animals that died on the farms. There is no protection against this kind of infection, except burying animals dead from unknown causes without trying to salvage the hides. Those who handle wool, hides, and hair at docks also would not be protected by disinfection which must be done after the wool has been unloaded and taken to the disinfecting plant.

Now and then, stories have been published of cases of anthrax that have been contracted as a result of infected shaving brushes made of horse hair. Brush manufacturers in this country, some time ago, agreed to use no more horse hair in the manufacture of brushes of this kind.

RESEARCH ON EDIBLE GELATIN

The Edible Gelatin Manufacturers of America, Incorporated, announce the establishment of an Industrial Fellowship in the Mellon Institute of Industrial Research of the University of Pittsburgh, for the purpose of ascertaining the real food value of edible gelatin in its manifold applications in the American dietary.

The founding of this Fellowship is the outgrowth of the desire of the members of the Association to uphold high standards in the manufacture of this food and to have available, for their own use and for the trade, data of scientific and technical nature respecting its advantageous use in the food industries.

In addition to experimental investigations, a correlation of all available facts regarding edible gelatin will be made, to be held at the disposal of all users and prospective users of the product. It is hoped that real service may be rendered by supplying scientific data and technical advice.

The present incumbent of the Industrial Fellowship is Dr. Thomas B. Downey, who will be glad to furnish any available information to those interested in the uses of edible gelatin.

Dr. G. F. Brooks, of Ysleta, Texas, who recently (CLIN. MED., Jan. p. 73) announced his orange and pecan grove for sale, asks us to correct the impression that this property is located in southwestern Texas. As a matter of fact, it is in old Mexico, near the border.

What Others are Doing

PLURIVALENT BACTERIAL VACCINES*

The early investigations of bacteriological research were devoted to the discovery of a microbe for each disease. All maladies were suspected of being infectious. Later researches have greatly diminished the number of specific diseases that are due to a definite single pathogenic organism. In numerous infectious diseases, the existence of several germs has been demonstrated; in others, the presence of several kindes of microbes which, while quite similar to each other, yet differ in important biologic characteristics. Thus, the bacilli of the B. typhoid group, the diphtheria bacilli, the dysentery bacilli, the pneumococci, the streptococci, and others.

Since vaccinotherapy is in the foreground of therapeutic measures and is being employed more and more, it seems to be opportune to direct attention to the following facts:

1.—A microbe of a certain group does not give immunity against a related species of the same group. The bacillus of Eberth does not produce an immunity against the paratyphoid A or B, and vice versa.

2.—A same clinical symptom-complex may be due to different microbes. Thus, bacillary and amebic dysentery, infectious rheumatic affections, etc.

3.—In the same disease, different microbes may exert their action simultaneously or successively. Thus, complicated typhoid fever, gonorrhea, mixed chancre.

4.—In case of microbial association, one single microbe predominates and gives the impression of being the sole cause. In the degree in which the virulence of this microbe is lessened, owing to ageing or through an increase in the systemic immunity, the other, associated, germs develop giving the appearance of a secondary infection. However, there are cases in which the associated germ increases the virulence of the first virus. This is the effect, for instance, of the streptococcus upon the Loeffler bacillus.

Let us take, for instance, typhoid fever. It was formerly believed that this was due solely to the action of the Eberth bacillus; and, at the beginning of the war, immunization was done only with a univalent vaccine; the paratyphoid infections being seemingly too infrequent to be taken into consideration. However, cases of paratyphoid increased in frequency, in the vaccinated as well as in the unvaccinated, and the question arose whether antityphoid immunization might not produce a predisposition for paratyphoid.

On the basis of observations in 160 cases of typhoid fever, my late teacher, Professor Chantemesse and I (*Acad. de Méd.* juin, 1916) showed that "typhoid fever represents most frequently not a univalent infection (typhoid or paratyphoid) but a multiple infection made up by a greater or lesser mixture of the three germs of the typhoid group. At times, even, there is superadded an infection with enterococci or with colon bacilli. The infection of the organism occurs usually progressively, as though one of the pathogenic virus prepared the soil for the invasion by the others; but, infection may be simultaneous. In the first case, the intervention of a new germ is shown clinically by modifications in the fever curve (uncertain stage, relapse, return). These last were, therefore, merely the expression of the complex nature of the typhoid infection.

If a person, being in the incubation stage of typhoid fever, is given an injection containing only typhoid bacilli, he will, in all probability, develop paratyphoid; similarly, during the actual typhoid fever, injection of typhoid vaccine does not prevent the occurrence of paratyphoid A and B or infection with enterococci.

Other maladies present the same phenomena. The secondary infections in urethritis acquire, at a certain period, the upper hand over the gonococci. The same is observed in enteritis and probably also in pneumonia with multiple and successive foci of infection, where the four types of pneumococci may infect the lung successively or simultaneously.

In most cases, a single germ is evident, throwing into the shade the other species of bacteria which await the weakening of the predominating microbe before entering upon the scene. It is quite like in mixed chancre. A soft chancre presents, ordinarily, no indication of a different infection; but, at some time

*Translated from the French, of Dr. A. Grimberg; in *Paris Médical*, 25 novembre, 1922.

when all seems to be going well, the patient presents himself with a typical eruption of roseola.

These ideas are of very great importance from the viewpoint of vaccinotherapy.

As a matter of fact, vaccinotherapy must be not only therapeutic—directed against the predominating virus—but also preventive against those germs held in the shadow by the exuberance of the former. For instance, in a given case, nothing may be found but typhoid bacilli; still, a mixed vaccine must be administered since, without it, relapses due to paratyphoid might develop.

A stock vaccine should, therefore, always be made to contain all kinds of germs that may be encountered in the malady under treatment, even though they may often be useless.

The same holds true for autogenous vaccines. If vaccinotherapy is directed against one microbe, only, other species will often multiply. It is necessary to isolate all the pathogenic germs that are found in a specimen of pus and to make a vaccine containing them in sufficient quantity, of each species.

Take, for instance, a specimen of pus containing staphylococci and a few occasional streptococci. At first sight, one might be tempted to make only an antistaphylococcic vaccine. However, when the staphylococcus loses out, the streptococcus will commence to multiply, and the treatment will have to be done all over.

It is therefore necessary that

1.—Stock vaccines should be plurivalent, containing all species and races of germs commonly associated in a given disease. In short, the vaccines should be made rather according to the peculiarities of the disease than according to germs only.

2.—Autogenous vaccines should contain like quantities of all species of germs which are found in the focus of infection under consideration.

LOCAL ANESTHESIA IN MAJOR OPERATIONS

Dr. Edmund C. Roos (*Ill. Med. Jour.*, Jan.) believes that the use of local anesthesia should no longer be confined to minor surgery, and to cases in which the patient apparently can not undergo the ordeal of taking a general anesthetic. Chloroform, ether, and gas, although they have been a great boon to surgery, have so many disadvantages, and their use is accompanied by so much discomfort to the patient, that it is not to be wondered at that local anesthesia is gaining so rapidly in popularity. Not only should local anesthesia be used in Cesarean section when a general anesthetic is contraindicated, as in eclampsia, nephritis, placenta previa with severe hemorrhage, etc., but it should be used in cases of contracted pelvis, obstructive tumors, etc., where the patient's general condition is excellent.

The advantages of local anesthesia in Cesarean section are many, Dr. Roos says. First of all, and the most important advantage is, that novocaine is the safest anesthetic we know of. Large amounts of a 0.5 percent or a 0.75 percent solution of novocaine may be injected without producing toxic symptoms. As much as sixteen ounces of a 0.75 percent solution has been used in one infiltration, and still larger amounts may be used if necessary without any untoward effects. Novocaine produces no circulatory, renal or pulmonary strain or complications. In pregnancy, the kidneys, heart and other organs are already taxed, often to the limit, and are frequently diseased. Why tax them still more up to or above the breaking point by administering a general anesthetic when anesthesia can be obtained satisfactorily without increasing the burden placed on these organs?

Postoperative pneumonia after local anesthesia is an extremely rare condition. The pulse rate, instead of being accelerated to 100 or over, remains at 80 after an abdominal section.

Local anesthesia reduces the shock to both the mother and the baby. Its use necessitates greater care in handling the tissues, thereby reducing trauma and resulting shock, postoperative pain and ileus. All unnecessary haste in performing the operation is eliminated.

If unnecessary haste is used from the time the abdominal incision is made until the final skin suture has been placed, Dr. Roos points out, the tissues are needlessly traumatized, resulting in more or less shock, postoperative pain and ileus. If it is shown that local anesthesia reduces shock in the mother, it is logical to believe that the shock to the infant is also decreased. As yet, no toxic manifestations of the novocaine have been observed in the baby.

Postoperative nausea and vomiting, a great source of discomfort to the patient, are usually entirely avoided. The absence of vomiting also eliminates the strain put on the abdominal incision with its resulting pain and danger of breaking the sutures.

If the patient is given a small dose of morphine and scopolamine an hour before the operation, and this dose perhaps is repeated in

half an hour, her memory sense will be deadened, so that she will not remember even the trip to the operating room or what occurred after she arrived there. After the patient is returned to bed, she will usually drop off into a natural sleep lasting from four to eight hours. To relieve dryness of the oral membranes and thirst, and to replenish the vascular system with fluid, the patient may be given, immediately after operation, an enteroclysis of three quarts of tap water, at 100° F., to which four drachms of sodium bicarbonate have been added.

Conclusions

1.—Local anesthesia should be the anesthetic of choice for all cases of Cesarean section, instead of being reserved for cases in which a general anesthetic is contraindicated.

2.—The interest of the patient should be the main consideration in the choice of an anesthetic.

3.—Novocaine is the safest anesthetic known at the present time.

4.—By using local instead of general anesthesia, the patient's postoperative discomfort is greatly lessened, convalescence is shortened, and the tendency to complications reduced.

5.—With the proper equipment and technic, the time of the operation is not greatly increased.

6.—Cesarean section can be as easily and as painlessly done as a hernia operation under local anesthesia.

COMBINATION SEDAN AND AMBULANCE

We wish to call the attention of our readers to a suggestion by Dr. John B. Potts, of Omaha (*Jour. A. M. A.*, Jan. 13, p. 102), according to which a sedan that has doors coming together in the center can be converted into an ambulance with very little difficulty. The change is made by removing the center post, which is held at the bottom by metal dowels, and at the top by a wing nut. After the post is removed, the larger half of the front seat and the auxiliary seat is taken out, and a board is laid on the floor to make a level surface, on which a carpet is laid. This is done quickly, and requires little or no skill. In a sedan thus converted, the space between the front and rear of the car is sufficiently wide to hold a Bomgardner cot. The foregoing can be furnished by Mr. Pfeiffer of the Pfeiffer Top and Body Corporation, Omaha.

A cut accompanying Doctor Pott's article shows clearly how easily the adjustment suggested by him can be made. This may be of great value for country physicians.

KAHN TEST FOR SYPHILIS

A preliminary report by Dr. C. C. Young (*Jour. A. M. A.*, Nov. 11, 1922) is based on 500 examinations, made since July 1, 1922, by the Bureau of Laboratories of the Michigan Department of Health. The following are the author's summary and conclusions:

The need for a test possessing fewer sources of error than the Wassermann test, has been felt in public-health laboratories where personal contact between physicians and laboratory workers is lacking on account of distance. The standardization of the Wassermann test, although helpful, would not, in our opinion, solve the problem of serum diagnosis of syphilis because of the numerous variables that are inherent in the test. Judging from experience gained in more than 20,000 Kahn tests, 5000 of which have already been reported to physicians, we believe that to check each Wassermann test with this simple test is at present the best solution of the problem. We do not believe that it is the final solution of the problem, because we are dealing with tests of which the biology as well as the physical chemistry is very little known. But we do believe that to report the two tests to physicians gives them a far more dependable laboratory diagnosis than the Wassermann test alone can possibly give.

It is recommended that the Kahn precipitation test be investigated in public-health laboratories, with a view of establishing it as a routine check on the Wassermann test and thereby increasing the dependability of the laboratory diagnosis of syphilis.

ANURIA FOLLOWING MERCURIC CHLORIDE DOUCHE

In the *Journal of the American Medical Association* (Jan. 13, p. 102), Dr. G. W. Outerbridge reports a case in which sudden, intense and protracted symptoms of a profound toxemia occurred involving the renal, gastrointestinal and hematopoietic systems. The trouble followed upon a vaginal douche of a small amount of moderately-strong mercuric chloride solution.

The patient was a iii para, aged 38, who dissolved two tablets of mercuric chloride in a glass of water and used it as a douche. Almost immediately, she began to have severe burning in the vaginal region, and abdominal cramps, with a chill lasting half an hour, fol-

lowed by vomiting and diarrhea. She said that she walked the floor in agony all that night. The next day, she called a physician, who packed the vagina loosely with gauze. On the afternoon of May 29, the patient was sent to the Abington Hospital, where she was admitted to the isolation ward, as she had been taking care of her children, who were sick with measles.

On admission, the teeth were bad, the gums reddened. The breath was fetid, the tongue dry and splotched. There was excessive secretion of saliva. The heart and lungs were normal. The abdomen was scaphoid; it was not tender; there was gurgling peristalsis. The external genitalia very much swollen and excoriated; the entire vagina was fiery red except where covered with irregular patches of greenish-gray exudate; there were similar patches on the vaginal portion of the cervix; there was a very foul vaginal discharge; the vagina was entirely anesthetic on examination. The temperature and pulse were normal. Blood examination revealed: hemoglobin, 65 percent; erythrocytes, 3,100,000; leukocytes, 14,400. No urine was obtainable for examination, and the patient stated that she had passed practically none all day.

Because of the time that had elapsed since the administration of the douche, it was not believed that calcium sulphide would be of use, and the patient was put on ordinary eliminative treatment, to which she responded very poorly, getting gradually worse. Complete anuria was present, repeated catheterizations showing the bladder to be absolutely empty.

Under gas-oxygen anesthesia, both kidneys were decapsulated. The night following the operation, the patient passed 2 ounces of urine, and a total of 8 ounces in the first twenty-four hours after operation. For the next six days, the amounts ran from about 6 to 12 ounces in each twenty-four hours; on the eighth day after operation, elimination rose to 18 ounces, on the eleventh day to 30 ounces, and on the twelfth day to 64 ounces. From then on, the daily output ranged from 90 to 110 ounces.

Following operation, the patient was given hot packs and other customary eliminative treatment, to which she responded poorly at first, and somewhat better after a few days. She soon developed an intense gastroenteritis, marked by very frequent, thin, liquid, brownish or bloody stools, and severe abdominal pain and tenderness. This continued for several days, and then gradually cleared up.

After that, the course of convalescence was greatly delayed by various other complications, especially intense and high-grade anemia; which, however, gradually were overcome and, in the course of six months, the patient had fully recovered.

A NEW OPHTHALMIC TEST OBJECT

Invented by James W. Gaffey, M. D., Cedar Rapids, Iowa. Patented December 26th, 1922, patent No. 1,440,351, described by the doctor as consisting of a casing having spaced sight openings therein. These sight openings form a miniature dark room. Two indican-carrying discs are mounted for rotation within the casing, said discs having spaced openings adapted to be singly brought into register in either of the sight openings, exposing the test object individually in a selective position in the miniature dark room to a central fixed point; the test objects that are used to determine the normal keenness of vision to be the power of distinguishing objects subtending an angle of five. The test objects are formed of strokes whose width is 1/5 the size of each test object; consequently, they are seen under an angle of only 1, the relation of the size of the object to distance at which it should be discerned by a normal eye. The scientific exposing of the test object eliminates the dark room.

This instrument has been designed to provide a simple, practical, and scientifically exact means of testing the keenness of vision, and applying other tests that are of use in eye examinations, such as the testing of color perception, the determining of the amount of astigmatic error, axis of astigmatism. The test apparatus can be universally used in the office, clinic, school, army and navy, for persons of all nationalities.

NEWS

Dr. Gilbert T. Smith, formerly Chief Medical Officer of the Steamship "Reliance" of the United American Line, has been appointed Chief Surgeon of the Steamship "Resolute", sailing from New York on January 9th on a tour around the world, the steamer having been chartered for this purpose by the Raymond & Whitcomb Company of New York.

At the regular meeting of the Medical Board of the Bronx Hospital and Dispensary, held on December 28th, Dr. William J. Robinson and Dr. Martin Rehling were unanimously re-elected President and Secretary, respectively, of the Medical Board, for the twelfth successive year.

Among the Books

TAYLOR: "MONTAIGNE"

Montaigne and Medicine. By James Spottiswoode Taylor. New York: Paul B. Hoeber. 1922. Price $3.75.

Here is a charming book which, for itself, a book lover delights in. There are some books that we like to hold, to fondle; in fact, to examine deliberately and leisurely. If the contents correspond to the mechanical make-up, so much the better. We are accustomed to receiving beautiful books from Mr. Hoeber who strikes us as an idealist in book making. Sometimes, indeed, we wonder whether some of his publications really pay in money and not only in satisfaction.

It is to be hoped that this delectable volume on that genial philosopher, Montaigne, will be acquired by many physicians for leisure-hour reading, where it may prove the source, not only of keen enjoyment, but also of practical stimulation. While it is not to be expected that we study medicine from writings over three hundred years old, Montaigne's essays, nevertheless, contain homely truths of everyday interest, especially regarding physicians and patients. There is much in the abstracts and excerpts from these essays, reproduced in this volume, that the physician will ponder and that may help him in his dealings with his patients.

Montaigne was born, we are told, in 1533. His father was a wealthy burgher who gave his children a careful education. The young Montaigne grew up in easy and comfortable circumstances and, at the age of thirty-three, he married a woman of good middle-class family and respectable fortune. His biographer informs us that she made him a good wife, the union fully meeting the husband's requirements. He adds, however, "we have no way of knowing how satisfactory it was to his wife. Presumably, it had all the disappointments usually accruing to the helpmate of a student and scholar."

Speaking of Montaigne's relation to women, we learn that his writings have some pointed allusions to the peculiarities of the fair, both maids and wives, but he may be regarded as an early recognizer, if not an apostle, of the doctrine of the equality of sexes, holding that, "apart from education and custom, the difference is not so great."

Montaigne's essays are freely excerpted and drawn upon to demonstrate his genial, kindly philosophy of life. He is quite prolific in descriptions of his personal habits, his likes and dislikes, his preferences; in fact, he feels himself quite human and, in the words of Terence, holds nothing of human peculiarities as being foreign to him.

While always of slight and delicate constitution, though healthy enough through his adolescence and manhood, he later on acquired a nephrolithiasis and suffered the justly feared torments of gravel and stone. For these, he would not on any account submit to the customary ministrations of the physicians of his day whom, indeed, he called in only casually, possibly for "moral support," and for most of whom he entertained a good-natured contempt which is manifested in the gentle but keen sarcasm with which he describes their customs, their failings, their limitations. Not that he refused to pay tribute to medical men of whose good faith and erudition he had convinced himself. Indeed, being through necessity a close observer of disease, he naturally extended his observations to the healers of disease and was free to give credit where it was merited, while he never hesitated to criticize when he thought it necessary.

Through his frequent attacks of brutal pain, he naturally accustomed himself to the idea of death and he speaks of it without fear, without morbid anticipation. There are few things with which we concern ourselves in our daily lives that were not mentioned, several times, in his essays. He relates how he took care of his teeth, how he insisted on personal cleanliness, found it useful to fast occasionally, although commonly moderately fond of the pleasures of the table. He was kind to animals and was especially fond of horseback riding. Like the little boy who scratched himself because it itched, he found this exercise pleasurable, indeed he calls it one of the little luxuries of life.

Speaking of solitude, he says that "every man should have a back-shop all his own . . . in which he can establish his liberty, his chief refuge, his best solitude. And here it is that he must hold his ordinary intercourse with himself . . . Miserable, to my way of thinking, is he who hath no place where he can be at home to himself, where he can privily

court himself; where he can hide himself. To me it is much more bearable to be always alone than never."

It is apparent from these remarks that Montaigne was a bookworm, a student, a scholar. Indeed, he enjoyed a library of about one thousand volumes (which for that period was considerable), which was housed in a tower apart from his chateau and where he also had his bedroom. "His beloved refuge", we are informed, "that famous temple of the soul but for which the world of letters and the world of thought would have been infinitely the poorer, had on the ground floor a chapel. Mass said there could be heard by the lord of the domain lying comfortably in bed above. The second story contained the library and a communicating chamber, cozy and warm. The regular bedroom was on the third story. The walls of the library were decorated with musical instruments, pictures, inscriptions. On the rafters were favorite sayings from Homer, Horace, Plato, Pliny, St. Paul, Terence, Ecclesiastes, the Psalms, etc. The books of which the owner was justly proud, numbered a thousand, a goodly and unusual collection for citizen or king. Of these thousand volumes, but seventy-six have been positively identified. Someone, by accident, picked up, in a second-hand shop in Paris, his copy of Cæsar's "Commentaries" with over six hundred annotations in the essayist's own hand. We know that he had a Greek Bible, Munster's "Cosmography" (a sort of guide book to Europe), four works on theology—two of them heterodox—and five volumes on law and medicine respectively. In his retirement, Montaigne turned to books. He could not play the gentleman farmer and cared nothing for the breeding of cattle nor did the country charm him except as it afforded quiet. He does not gaze from his window to note, like Horace, how deep the snow rests on hillside or mountain; his years of bucolic life enabled him to add nothing to the teachings of Virgil.

When importuned, to "enter into a course of physic for the sake of his illness, he told the doctors that they must give him time to recover his strength and health so that he may be the better able to support and encounter the violence and danger of their potions. He preferred to let Nature do her work, supposing her to be sufficiently armed to defend herself from the assaults of infirmity . . ." Elsewhere he remarked, "Plato had reason to say, that, to be a right physician, it would be necessary that he who would take it upon him, should first himself have passed through all the diseases he will pretend to cure, and through all the accidents and circumstances whereof he is to judge. For my part, I should put myself into such hands."

We believe that we have said enough to arouse our readers' curiosity. We have found keen enjoyment in reading this book for which the Editor deserves grateful thanks.

Montaigne, while a critic of the medical profession, was a fair critic. He was gentle in his blame, pleasantly sarcastic (if we may say so) in exposing our foibles, but he also gave good advice and wholesome suggestions. He did not damn us root and branch, nor did he call us fools or knaves as some of our modern, self-appointed, fanatic critics do. He was *not* a fanatic. Far better, he was thoroughly human.

HOOKWORM DISEASE BIBLIOGRAPHY

Bibliography of Hookworm Disease. The Rockefeller Foundation. International Health Board. New York City. 1922.

This bibliography of special publications, all devoted to hookworm disease, contains 5680 entries, showing the enormous interest attaching to this particular infection. The bibliography became necessary through the work of the Rockefeller Sanitary Commission in assisting the southern states in measures for the control of hookworm infection.

The list of references is preceded by a condensed historical sketch of studies on the subject. It is followed by a list of periodicals, by an authors' index and a subject index. Needless to say, it is of immense value to all those whose investigations relate to hookworm.

SHORT: "PROGNOSIS"

An Index of Prognosis and End-Results of Treatment. By Various Writers. Edited by A. Rendle Short, M. D., B. S., etc. Third Edition, Revised and Enlarged. New York: William Wood and Company. 1922. Price $12.

When a patient consults a physician, the first question is: what is the matter? and the second, what will be the outcome? Both questions are of paramount importance. And, be it remembered, the matter of prognosis is of no less practical interest than are those of diagnosis and treatment. Will recovery be prompt or slow? complete or partial? Will there remain permanent faults, or results? All these are points concerning which the patient or the family will want to be enlightened. To put them off by side-stepping the question, will lessen confidence in the physician.

A book that is devoted entirely to a consider-

ation of prognosis is novel and unique. This present volume is, we believe, the first American edition to be published, the work having appeared, first, in 1915, in England. There can be no doubt about its usefulness which extends not only to the hospital physician or surgeon and the clinician, but no less to the general practitioner. We have read a good bit in the 578 pages of text and are fully convinced of the great service that this book will render to physicians, no matter what their status or their special field of work may be.

POTTER: "VERSION"

The Place of Version in Obstetrics. By Irving W. Potter, M.D., F.A.C.S. Illustrated. St. Louis: C. V. Mosby Company. 1922. Price $5.00.

Doctor Potter's method of version is becoming well and favorably known. Certainly, it appeals to one as very feasible and thoroughly practical on the principle of "practice makes perfect" which, the author informs us, has worked out in his own case. At first, he employed version only as an alternative of high-forceps delivery. The more he practiced turning, the more expert he became. Gradually, he increased the indications and enlarged the field for the version operation until, now, at least ninety percent of his cases are delivered by version with no maternal mortality in his last 938 cases and a fetal mortality of 2.3 percent, not counting macerated and dead feti or babies whose cords did not show any pulsation when delivery was started.

In support of version, Doctor Potter points out that the second stage of labor is thereby eliminated. The women do not suffer any of the pain usually consequent upon this stage; the vagina and perineum are not subject to long hours of stretching, resulting in quick retraction, so that relaxed and gaping outlets with protruding and falling bladders and rectoceles do not occur in his patients. Finally, the author is able to complete the delivery within an hour—an important saving not only of time but also of effort and strength, both for the patient and for the physician.

While it may seem dangerous to complete a delivery "within an hour", as the author does, consultation of the text will show that he is careful to "hasten slowly". It must not be inferred that he *yanks* the baby out of the parturient canal. On the contrary, his method is deliberate and pays careful attention to the possibilities of producing injury which is prevented as much as possible.

The book is beautifully illustrated; the text is clear; the paper is good. All physicians doing obstetric work should study the text. It will make the better obstetricians of them.

BELL: "FEEDING OF CHILDREN"

Feeding, Diet and the General Care of Children. A Book for Mothers and Trained Nurses. By Albert J. Bell, A.B., M.D. Illustrated. Philadelphia: F. A. Davis Company. 1923. Price $2.00.

Here is a little book that will be very attractive to those for whom it is intended, namely, mothers and nurses who have the care of children entrusted to them. The text is not continuous but is prepared in brief, terse, paragraphs following bold-face titled that are splendid for rapid orientation. The subject matter is arranged logically and the ideas are sound. We can recommend this volume for the use of those for whom it has been written.

HESS: "INFANT FEEDING"

Principles and Practice of Infant Feeding. By Julius H. Hess, M.D. Illustrated. Third Revised and Enlarged Edition. Philadelphia: F. A. Davis Company. 1922. Price $4.00.

In contrast to the preceding book, the one by Hess is for the guidance of physicians and teachers and for the use of students Originally, it was to be used in preparation for clinical conferences—which makes it all the more appropriate for physicians.

While the text is concise, it is full enough to serve the needs of general practitioners. Part I deals with general consideration; Part II with nursing for infants; Part III with artificial feeding; Part IV with nutritional disturbances in artifically fed infants; Parts V to IX are devoted to rickets, spasmophilia, scurvy, acidosis, anemias of infancy. All these pathological discussions are immensely important to those treating babies and small children. They deal with those accidents and affections for which mothers are most likely to consult the physician.

The appendix discussess proprietary baby foods. It gives directions for the preparation of infant foods and deals with several other important topics. The book is good and useful.

NEWMAN: "TWINS"

The Physiology of Twinning. By Horatio Hackett Newman. Chicago: The University of Chicago Press. 1923. Price $1.75.

The question: "Why twins?" is one frequently asked. A morphological and biological study

of the causes of twinning and of other details of this process naturally interests physicians and, for this reason, this attractive little publication, gotten up by the University of Chicago Press, will be studied with interest by the students and scholars of the medical profession.

PHILLIPS: "EAR, NOSE AND THROAT"

Diseases of the Ear, Nose and Throat, Medical and Surgical. By Wendell Christopher Phillips, M.D. Sixth Revised Edition. Illustrated. Philadelphia: F. A. Davis Company. 1922. Price $8.00.

The author informs us, in the preface to this edition of his book that it has been his continued desire to thoroughly Americanize this volume by giving preference to the achievements of American otologists, rhinologists and laryngologists in the belief that, wherever it may be read, it should stand for American ideals. In view of the fact that it is used as a textbook, not only in medical schools of this country but also of many foreign countries, this is a laudable policy and one that will help to show that American specialists are doing much and valuable work in the diseases of the organs concerned.

An examination of this book impresses us with the fact that it is not only useful to the specialist but may be consulted to great advantage by the general practitioner. While much of the text may be beyond the latter, since he does not possess either practice or dexterity, nor training to carry out many of the operations suggested, nevertheless, he should be familiar at least with the theory and, to a great extent, with the practice. The book is beautifully illustrated and we like it.

"MEDICAL CLINICS OF NORTH AMERICA"

The Medical Clinics of North America (Issued Serially, one number every other month). Volume VI. Number 3. November 1922. By New York Internists. Philadelphia: W. B. Saunders Company. Price, per clinic year (July 1922 to May 1923), Paper $12.00; Cloth $16.00.

The New York Number of the current volume of "The Medical Clinics of North America" contains eighteen clinics and contributions by attendants in various New York hospitals. Just a few of the subjects are: Management of Patients with Heart Disease During Pregnancy and Labor; The Principles Underlying the Treatment of Diarrheas; Atropine in the Treatment of Congenital Pyloric Stenosis; Maintenance by Diet in the Treatment of Diabetes Mellitus; The Management of Early Cases of Chronic Infectious Arthritis; The Tonsils in the Tuberculous; Common Pituitary Syndromes; Certain Aspects of Eczema and Asthma in Infancy and Childhood from the Standpoint of Allergy.

GREENE: "MEDICAL DIAGNOSIS"

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M.D. Fifth Edition Revised and Enlarged. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1922. Price $12.00.

Mechanically, consultation of this book is facilitated by the generous use of marginal subheads which makes it possible to find information on any desired topic very readily.

The text proper, dealing with the diagnosis of disease, is preceded by a consideration of certain fundamental principles and special problems, followed by a few paragraphs on case taking and a chapter on outward signs of disease. The next chapter deals with age, race, sex, habits, social state and residence; the succeeding one with history and analysis of the "present ailment", and then follow the discussions of diseases.

In his first chapter, the author is epigrammatic. He says, for instance, that the civilized world is thronged with eager altruists seeking new medical truths; the result being a vast continuous outflow of honest, but more or less imperfectly established and unproven assertions, together with a small but persistent trickle of valuable facts, which tends constantly to raise the level of scientific fitness and practical achievement. To separate the wholesome grain of truth from the great volume of chaff is a never-ending task of no small magnitude.

Speaking of the glamor of a great name, the author picks out Koch's tuberculin as a useful example: "Every medical man knows now that harm resulted from a wholly natural overconfidence in the honest, but mistaken, oversanguine and premature, announcement of a genuine discovery by one of the greatest and most sincere of medical investigators, who, despite this one error has placed the entire civilized world under a debt of gratitude."

It is a question whether Koch actually committed this one error. It is well known that the announcement of tuberculin was made too early and that further investigations should have been carried on. Quite recently, somebody who knows told the Reviewer that, one

day, in 1890, Koch entered his institute in great distress and said to his colleagues: "The emperor commands me to give out tuberculin. My God, I can not do it now; it is too early!" Koch did not wish to announce the remedy yet. He realized that the time was not ripe. All this, however, is by the way.

It is hardly necessary to say anything in praise of Greene's "Medical Diagnosis". The book is so well known and so generally in use that we may content ourselves with calling attention to this new edition.

ABBOTT: "WHAT COMES FROM WHAT?"

What Comes From What? or the Relationship of Animals and Plants. By Charles L. Abbott. Published by the Author, 600 Ivy Street, St. Paul, Minn. Pamphlet, 48 pages. Price $1.

This pamphlet contains 41 diagrams, with explanatory notes, in which plant life, beginning with the bacteria, and animal life, beginning with the sponges, are traced to their full development and evolution Coming to the Primates, including man and the apes, monkeys and lemurs, the author finds that man was differentiated from the apes in the Pliocene, or possibly as early as the Miocene, period; that is to say, about three million years ago.

The notes as well as the diagrams are full of interesting things. To the student who likes to trace matters back, there is much information of interest to be gotten.

KENDALL: "BACTERIOLOGY"

Bacteriology. General, Pathological and Intestinal. By Arthur Isaac Kendall, B.S., Ph.D., Dr.P.H. Second Edition, Thoroughly Revised. Philadelphia and New York: Lea & Febiger. 1921. Price $6.00.

While this book, now in its second edition, should have been announced several months ago, the oversight being deplored by the Reviewer, there lies a small compensation in the fact that the author, unlike a certain critic and detractor of practical immunization (which might be designated, in one sense, as applied bacteriology), is rather favorable to that mode of therapeutics than otherwise. True, he realizes that the method is still, to some extent, experimental, but he finds that it has accomplished actual results. In view of certain recent criticisms of the clinical application of vaccine therapy, Kendall's views are encouraging.

If we consider that, as the author points out, bacteriology is a young science [only between forty and fifty years old; but, in view of modern facilities of communication, centuries old in terms of olden times.—Ed.], we have cause to be pleased with the many splendid practical results and benefits that have accrued from this science. Errors have been made and will be made; but, "the errors of the present will prove the starting points for future study and rectification".

To us, as physicians, the practical application of bacteriology, namely, immunology and immunization, appeals more particularly. Regarding this, the author says that "the value of vaccines and of autogenous vaccination in bacterial prophylaxis and bacterial immunization, as set forth by Wright" [whom one writer recently designated as 'an Englishman, named Wright', as though he were a somewhat obscure person.—Ed.] "marks a distinct epoch in bacterial therapeutics . . . He has used bacterial vaccines both for prophylaxis—to prevent infection with specific bacteria—and therapeutically—to arrest infection."

While Kendall holds bacterial vaccines to be contraindicated in acute diseases, generally speaking, he says that they may be employed in practically any localized infection, or an infection which has become chronic. "Generally speaking," we agree with him in that position. However, there are occasions when, even in acute affections, a bacterial vaccine may be employed with quite manifest benefit. Even in pneumonia, such preparations are occasionally administered with excellent results.

To return to the book as a textbook of bacteriology, we are free to say that it is one of the best on the subject that we know. The author is not only a bacteriologist or a scholar; he has taken pains to watch the practical working-out of the laboratory results. He writes as he speaks: clearly, lucidly, impressively. The book is very much worth while.

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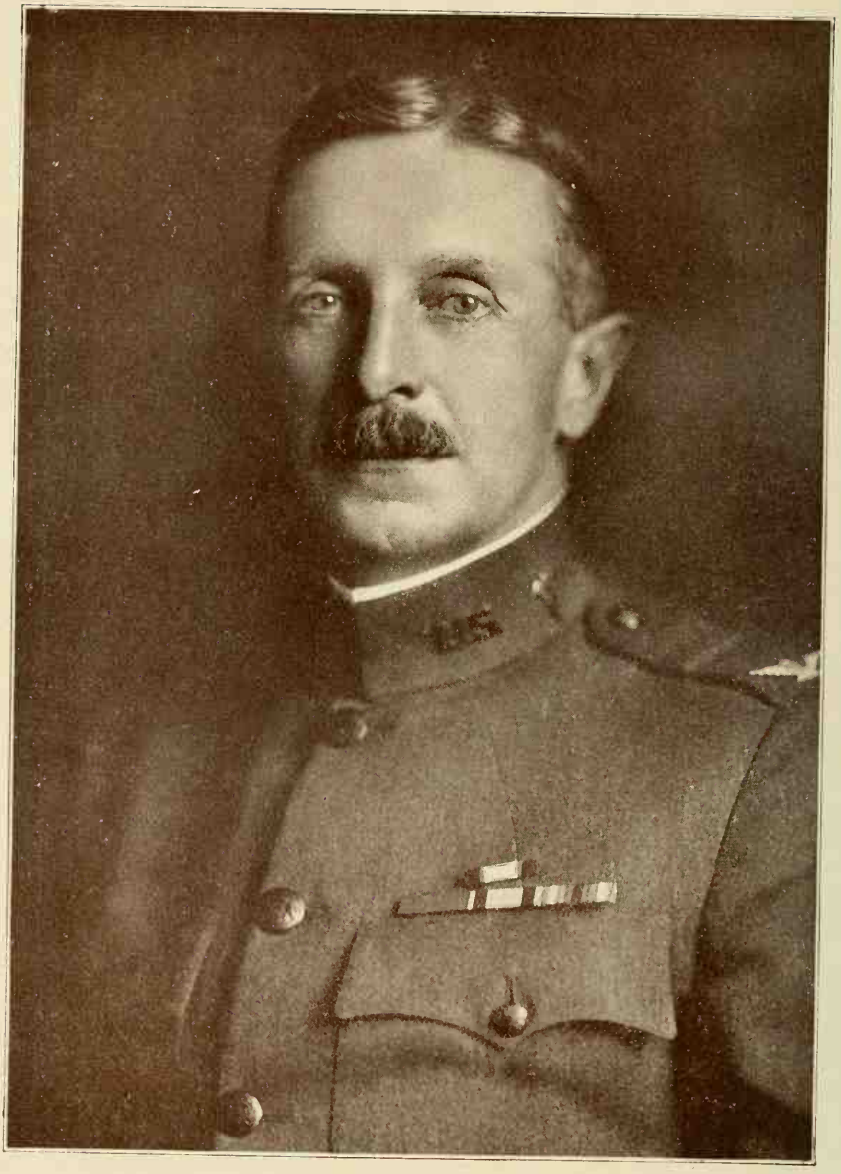

Colonel Charles Lynch

The American Journal of
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Colonel Charles Lynch

COLONEL Charles Lynch was born in New York, March 5, 1868. He graduated in medicine from Syracuse University, in 1891, and passed the competitive examination for first lieutenant in the medical corps of the United States Army about two years later. Five years after that, he successfully passed the examination for the grade of captain

He held the temporary rank of major from April, 1901, to December, 1902, and was promoted to the same grade in the regular establishment, April 2, 1906. About eight years later, he rose to the grade of lieutenant-colonel and, on May 15, 1917, to the grade of colonel.

Colonel Lynch, while a junior officer, served at divers military posts in a professional capacity. Later, he saw arduous service in the Philippine Islands.

When it was made possible for medical officers to be assigned to duty with the General Staff, an assignment which is considered in all civilized nations as a signal recognition of special ability, Colonel Lynch was the first medical officer so honored. He served with this most important staff organization from 1904 to 1908.

During this tour of duty, Colonel Lynch performed a piece of work which, by its very nature, did not attract popular attention, but which was fully appreciated for its far-reaching effects by the War Department and by those interested in American military medicine. Colonel Lynch was sent by our government to Japan as an observer during the important war with Russia. He accompanied the Japanese army, witnessed the fall of Mukden, studied the entire medico-military establishment of the Japanese army and returned home, having been honored by the Emperor of Japan with a high military decoration which, under regulations then in force, he could not accept for himself.

There have been other observers, officers of the line and staff, of many nations, who have sent to their respective countries valuable reports of their studies, but Colonel Lynch has prepared a large volume which, in the opinion of experts, is a monument to his analytical mind and patriotism, a work which, to the initiated, meant that we had outgrown the provincialism of the Spanish-American War period and begun to develop into a tremendous nationalism, which manifested itself as a prelude during the Mexican imbroglio and culminated in our gigantic operations in Flanders, the Meuse and the Argonne.

No sooner was Colonel Lynch relieved from

duty with the General Staff, but what another new and honorable assignment was bestowed upon him; namely, that of head of the first-aid department of the American Red Cross. To appreciate the importance of this duty, it is but necessary to point out that, during the Spanish-American War and for some time after, the American Red Cross society was a private sort of an affair which lacked the standing and resources of even small European nations. It was later reorganized under the supervision, protection and control of the government, and then assumed a role of national and international importance. Nevertheless, everything had to be built up from the bottom, and the organization of first-aid teams in great industrial centers, notably the coal mines, and units intended to assist the military in time of war, was fraught with great difficulties, as the service was to be entirely voluntary and the material needs provided by the organizations themselves. In view of all this, an idea of the tact and popularity of Colonel Lynch can be had, when it is told that, when the International Red Cross Conference convened in Washington, a few years after Colonel Lynch had undertaken the task, the most distinguished army, navy and medical officers sent as delegates by their respective countries, in their full-dress uniforms as an unaccustomed setting, witnessed on a huge field a competitive first-aid contest of such magnitude as to express in their official reports astonishment at the progress of the American Red Cross organization which acted as host.

The program on the large athletic field went off without a hitch before the distinguished audience on the amphitheater, except for one instance and that was, when an Illinois first-aid detachment, ninety officers and men strong, suddenly marched to the front, stacked their litters and came to the position of attention. Its commander stepped forward and, in a few well chosen words, addressed first the audience and then the subject of our sketch, who stood in the field taken by surprise, and, in the name of the Illinois Red Cross teams, presented him with a presentation saber as a recognition of his great services to the nation.

Colonel Lynch had written a number of first-aid manuals for the Red Cross, which have been translated into many languages, to meet the requirements of foreign-born laborers and miners.

At about the same time, he became secretary of the Association of Military Surgeons of the United States and editor of its official monthly journal, *The Military Surgeon,* a magazine which, under his editorial management, received a good deal of literary recognition by the foreign medico-military press.

During the World War, Colonel Lynch served for some time as Department Surgeon of the important Southern Department, but his most noteworthy work was accomplished, as narrated by Dr. Blech, in his Memoirs of the World War, as chief surgeon of the port of embarkation at Newport News, Va., which became a port of debarkation for our returning sick and wounded. He was honored by the War Department for these services with the Distinguished Service Medal.

At the conclusion of the war, Colonel Lynch was assigned to the responsible task of editing the Medical and Surgical History of the World War, a huge task, which is to be a work of even greater importance than the well-known work of a similar character on the Civil War.

Colonel Lynch is now president of the Association of Military Surgeons of the United States and, during the absence of General McCaw, in addition to his other duties, is in command of the Army Medical School.

At an age of barely fifty-five, Colonel Lynch stands out as one of the builders of American medico-military science, a public servant who is a valuable asset to our nation.

INCOME TAXES

The Treasury Department rules and regulations regarding the computation of personal income taxes provide for certain exemptions, deductions and allowances which can be studied by physicians to good advantage.

Section 212 of the Revenue Act of 1918 provides:

"The net income shall be computed upon the basis of the taxpayer's annual accounting period (fiscal year or calendar year, as the case may be) in accordance with the method of accounting regularly employed in keeping the books of such taxpayer; but, if no such method of accounting has been so employed, or if the method employed does not clearly reflect the income, the computation shall be made upon such basis and in such manner as in the opinion of the Commissioner does clearly reflect the income."

This decision evidently indicates the necessity for correct accounting methods on the part of physicians, as well as corporations.

Most physicians are familiar with income tax laws and with supplementary decisions af-

fecting their own returns, but some of the following points may have escaped attention:

If the doctor's office is in his home, he may properly deduct a portion of his living expenses as professional expense for maintaining this office. This deduction may include a reasonable portion of the expense for light, heat, water and janitor service, as well as rent.

Depreciation on the automobile used by the physician for professional purposes is a deductible item, as is, also, the upkeep of this automobile, including gasoline, oil, repairs and garage rent.

The salaries paid to nurses, assistants and office help are properly chargeable to expense. The telephone used for professional service is, also, an item which may be deducted for expense. In this connection, Article 291 of Regulations 62, reads in part:

"In the case of a professional man who rents property for residential purposes, but incidentally receives there clients, patients or callers, in connection with his professional work (his place of business being elsewhere), no part of the rent is deductible as a business expense, if, however, he uses part of the house for his office, such part of the rent as is properly attributable to such is deductible."

Article 104 on Professional Expenses reads:

"A professional man may claim as deductions the cost of supplies used by him in the practice of his profession, expenses paid in the operation and repair of an automobile used in making professional calls, dues to professional societies and subscriptions to professional journals, the rent paid for office rooms, the expense of the fuel, light, water, telephone, etc., used in such offices, and the hire of office assistants. Amounts currently expended for books, furniture and professional instruments and equipment, the useful life of which is short, may be deducted."

Depreciation at the rate of 5 percent a year may be deducted on permanent fixtures or apparatus which are in use, and apparatus which becomes obsolete may be charged off.

Under Section 234 (A) 7, it is stated:

"A reasonable allowance for the exhaustion, wear and tear of property used in trade or business, including a reasonable amount for obsolescence."

Article 178, Regulations 333 Revised, provides:

"Amounts representing losses on account of obsolescence of physical property may be included as a deduction from gross income, as a loss, provided such amounts have been recorded in the books, following the condemnation and withdrawal from use of such property."

Traveling expenses for professional purposes may be deducted, but expenses of attending medical meetings are not held to be deductible under Treasury Decision 369, reading as follows:

"Amounts expended by physicians for railroad and Pullman fares and hotel bills, in attending a medical convention are not ordinary and necessary expenses incurred in the pursuit of his profession, and do not constitute allowable deductions in his return."

Premiums paid for liability insurance against malpractice suits are deductible items.

Taxes are deductible except special assessments which may increase the value of the property owned. In this connection, Section 214 (a) of the Revenue Act of 1917 provides: (3) "Taxes paid or accrued within the taxable year imposed; (c) by the authority of any State or Territory, or any county, school district, municipality, or other taxing subdivision of any State or Territory, not including those assessed against local benefits of a kind tending to increase the value of the property assessed, may be deducted."

Article 133 of Regulations 45 (1920 Edition) provides that:

"Taxes paid for local benefits, such as street, sidewalk, and other like improvements, imposed because of and measured by some benefit inuring directly to the property against which the assessment is levied, do not constitute an allowable deduction from gross income. A tax is considered assessed against local benefits when the property subject to the tax is limited to property benefitted. Special assessments are not deductible, even though an incidental benefit may inure to the public welfare."

Loss from the sale of securities is a deductible item, as are, also, charitable donations up to 15 percent of the net income.

With reference to charitable contributions, Article 251 has this to say:

"Contributions or gifts within the taxable year are deductible to an aggregate amount not in excess of 15 percent of the taxpayer's net income, including such payments, if made to or for the use of: (a) The United States, the District of Columbia, or any State or Territory, or political subdivision thereof, for exclusively public purposes; (b) any corporation or community chest, fund, or foundation, organized and operated exclusively for religious, charitable, scientific, literary, or edu-

cational purposes or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private stockholder or individual; or, (c) the special fund for vocational rehabilitation under the Vocational Rehabilitation Act of June 27, 1918. For a discussion of what corporations and organizations are included within (b) see Article 517. Deduction of contributions to posts of the American Legion or the women's auxiliary units thereof is expressly allowed by the statute."

Bad debts are deductible items. Under Treasury Decision 3262:

"Debts ascertained to be worthless and charged off within the taxable year (or in the discretion of the Commissioner, a reasonable addition to reserve for bad debts) and when satisfied that a debt is recovered only in part, the Commissioner may allow such debt to be charged off in part."

Article 72, relating to Insurance, Compensation, and War Pensions, may be of interest to physicians:

"(a) Upon the death of an insured the proceeds of his life insurance policies, whether paid to his estate or to any beneficiary (individual, partnership, or corporation), directly or in trust, are excluded from the gross income of the beneficiary. (b) During his life only so much of the amount received by an insured under life endowment, or annuity contracts as represents a return, without interest, of premiums paid by him therefor is excluded from his gross income. (c) Whether he be alive or dead, the amounts received by an insured or his estate or other beneficiaries through accident or health insurance or under workmen's compensation acts as compensation for personal injuries or sickness are excluded from the gross income of the insured, his estate and other beneficiaries. Any damages recovered by suit or agreement on account of such injuries or sickness are similarly excluded from the gross income of the individual injured or sick, if living, or of his estate or other beneficiaries entitled to receive such damages, if dead. Since June 25, 1918, no assessment of any Federal tax may be made on any allotments, family allowances, compensation, or death or disability insurance payable under the War Risk Insurance Act of September 2, 1914, as amended, even though the benefit accrued before that date. In addition to this exemption from all Federal taxes, the Revenue Act of 1921 exempts from income tax amounts received as compensation, family allotments, and allowances under the provisions of the War Risk Insurance and the Vocational Rehabilitation Acts, or as pensions from the United States for service of the beneficiary or another in the military or naval forces of the United States in time of war."

Article 73, on Gifts and Bequests, is also of interest:

"Money and real or personal property received as gifts, or received under a will or under statutes of descent and distribution, are exempt from tax, although the income therefrom derived from investment, sale, or otherwise is not."

There are many other regulations and decisions of interest to physicians who buy or sell real estate on deferred payment plan, and to physicians who are connected with stock companies and business corporations.

For further information and decision, see "Regulations 62 (1922 Edition) relating to the Income Tax under the Revenue Act of 1921," also, Internal Revenue Bulletin, January, 1922-June, 1922, Treasury Department, Bureau of Internal Revenue. These books may be obtained from the Government Printing Office, Washington, D. C.

AN ELECTRO- AND PHYSIO-THERAPEUTIC NUMBER

We are planning to issue an electro- and physio-therapeutic number in the June issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE. Such a special issue has been asked for repeatedly by our subscribers and we know that it is going to be a good one, We want those who have had practical experience in this form of treatment to communicate with us, being careful to submit their manuscripts not later than May 1st.

PROGRESS

A recent announcement in the medical press excites our curiosity and causes us to wonder.

The advertisement referred to is that of an importer of German dyes, who is also a manufacturer (in this country) of a well-known drug which has its origin in Germany. In his announcement of a certain widely used drug, this manufacturers refers to the fact that it is still made "in accordance with original formulas and processes."

Whatever respect is due to the originator of an idea, a formula, or a product, the same cannot be owing to those who continue to use original ideas when there is something

better available. Science has made great strides in the past ten years. Constant research is developing new ideas, is improving old methods and is profiting by the mistakes of the past. This truth is exemplified in everything we see about us.

You can recall the early types of horseless carriages and the rattle-traps of ten years ago. Compare these with the modern automobiles of today. Could any auto manufacturer be justified in advertising a car made after the "original processes" of the pioneers in this industry?

Compare the improvements in electric lighting, in surgical procedures and apparatus, in hospital equipment and in modern conveniences with the methods of fifteen or twenty years ago. Think of the advances in chemistry, in surgery, and in medicine!

We wonder why a present-day manufacturer will advertise that his products are made in accordance with "original formulas and processes," expecting to convince the medical profession that such products are equal to later drugs made by improved processes, the result of intensive research work.

"REVISED BEDSIDE DIRECTIONS"

Prof. Solomon Solis Cohen, who contributed to CLINICAL MEDICINE for January (p. 93) an article entitled "Revised Bedside Directions for the Treatment of the Acute Pneumococcus Pneumonias," informs us that there has been an error in the cuts published. Unfortunately, one of the cuts that should have been inserted in the paper had not been sent and, in its place, another had appeared.

This error will be corrected in the reprints of this instructive paper which are being made up now. Doctor Cohen will be glad to send copies of this reprint to physicians requesting him to do so, if they will enclose a two-cent stamp for postage. Doctor Cohen's address is 1906 Walnut St., Philadelphia, Pa.

The reprints will probably not be ready for another month. In the meanwhile, the chart can be found in an article entitled "The Complete Clinical Chart" which was published in the *New York Medical Journal* for January 6, 1918.

THE CARE OF SURGICAL PATIENTS

Among the topics on which articles have been requested by several subscribers, in the immediate past, is that of the care of surgical patients: before, during and after operation. This is a subject that presents problems all its own, which frequently are overlooked, or the importance of which is not realized. Yet, it is a fact that the outcome of most operations and, certainly, the permanent results depend fully as much upon the ante- and post-operative care that patients receive as upon the manner in which the operation was performed.

We are happy to advise the readers of CLINICAL MEDICINE that our associate editor, Dr. Gustavus M. Blech, has in preparation a series of articles on this important subject. The first of these articles will appear in CLINICAL MEDICINE for April. The whole series will be reprinted, when complete, and will then be available in pamphlet form.

"IN RE: CONAN DOYLE AND THE SPIRITS"

A few months ago (this journal, July, 1922), Dr. Candler described his impression on hearing Dr. Conan Doyle's lecture on the spirit world, and outlined his individual reaction to these ideas. The article in question called forth several comments, mostly commendatory, of which we selected two for publication. One of them is clearly critical and disapprobatory of Dr. Candler's viewpoint.

The publication of these letters was delayed for various reasons. Still, we do not deem it too greatly *post festum* even now. There is just as much indulgence in unwholesome spirit chasing; just as much need for physicians to make up their minds about the problem; just as great a necessity that physicians should be able to discuss the matter with those of their patients and friends who want their opinion. In a way, the discussion is one of preventive mental hygiene. So, we do not apologize for publishing the two letters that will be found on page 220 and page 223 of this issue. Both are instructive in their way. Both make interesting reading. Both assist in forming our conclusions.

SEND IN YOUR SUBSCRIPTION

When the March issue of a monthly journal is out, it may be assumed that all subscriptions for the current year are entered and paid up. There are always a few laggards, some of whom are in that class without their volition: they have not had time, they have

forgotten, they have not had an opportunity to send in their subscription.

Whatever may be the facts, now is a good time to settle up and to make sure that you receive CLINICAL MEDICINE for the balance of the year. We have taken this much out of Mr. Coué's book, that we are determined to make CLINICAL MEDICINE better and better in every way, month by month, and year by year. We want your help, not only in money (which is mighty nice), but also in the shape of contributions, articles and letters and, finally, through your cooperation in talking to your friends and inviting subscriptions. About this, we refer you to another editorial in this issue.

TEN THOUSAND NEW SUBSCRIBERS

In view of the work which CLINICAL MEDICINE has set itself to do, and because of what it has succeeded in accomplishing in the years gone by and is actually doing now, we feel that CLINICAL MEDICINE is truly the general practitioner's journal. We do not exclude specialists, nor do we mean to say that we have nothing of interest for them. However, our sympathies are, first of all, with the general practitioner, with the man who does most of the work, who carries the hardest responsibility and who receives the least remuneration, the slightest consideration.

It is not only that we desire to help the general practitioner in his daily work; to provide information, to offer him stimulation and encouragement, to give him aid when he is puzzled, But, in addition to all this, we are anxious to do our share toward affording material for thought on more general lines that may not be strictly medical but still must interest the medical man.

However, our biggest fight for the immediate future will be in the earnest endeavor, as far as lies in us, to promote the welfare of medicine and of the medical profession. We can not blind ourselves to the fact that, in a way, the medical profession is being attacked viciously. Those of our adversaries who are least fitted and qualified to offer a substitute for our services create the biggest smoke screen and make the loudest noise. Needless to say, if a noise be only loud enough it will arouse attention.

With all the diverse irregular cults of healing to the fore and voicing their blatant assertions, as to what they are capable of doing, and also with the incredible mass of misinformation and poorly-digested knowledge prevailing, we are convinced that the medical profession no longer may remain silent; we hold that it is our duty to speak out, to inform the people of what actually has been accomplished through the direct agency of the medical profession, to show them to what extent they are indebted to physicians for improved conditions of living, regarding sanitation, hygiene, the lessened morbidity and mortality of numerous infectious diseases, regarding the fact that the average duration of life has almost doubled as compared with that prevailing about fifty or sixty years ago.

Our purpose can be accomplished in several ways. We, on our part, must largely content ourselves with providing for our readers the information that they require to meet the various accusations, recriminations and inexact claims of the irregulars. To some extent, we might even enter the popular press.

However, we wish to urge the general practitioners the country over to devote a portion of their time to the more general duty which we tacitly assume on entering the medical profession; namely, that of being teachers. Here and there we learn that some of our friends write for daily papers and for other popular publications. This should be more general and we hope that it will become so. Especially small-town newspapers should carry information on matters of health, prepared by their local physicians. If we can be of assistance to you in getting up such communications, we shall be happy to be at your service.

All this concerns a program that we have laid out and which we intend to follow to the best of our ability. For the purpose, we naturally want the cooperation of those in whose behalf we propose to fight. We want to extend our sphere of influence, to enlarge the circle of our readers. Most of our subscribers have been with us for many years. Most of them have been staunch friends.

What we want you to do, each one of you, is to talk CLINICAL MEDICINE to your medical friends and to invite subscribers. It should be easy to increase our subscription list by ten thousand during the present year.

If you read CLINICAL MEDICINE with interest, if you receive help for your daily work from the suggestions contained in it, and stimulation and encouragement—is it not fair to your doctor friends to call their attention to the Journal which represents the general practitioners of the country and which does

its level best to help them in every way possible? Suggest to them that they subscribe. We venture to think that they will thank you.

If you contribute articles or even only letters which are printed in the reading pages of CLINICAL MEDICINE, you may send us a list of your friends to whom the copies are sent in which your communications appear. These will serve as sample copies. They will be read with interest for the personal reason that your own papers are printed there. We hope, of course, that your friends will like the Journal so much that they will subscribe for it.

Thus, then, if you like CLINICAL MEDICINE, if you want to do your part in making our work possible, get busy and procure those new subscribers for us. The more subscribers CLINICAL MEDICINE has, the more powerful a force it will be. And, don't you see that, at the present time, when the medical profession is beset by enemies on all sides more than ever before, it is absolutely necessary for a strong force, a vigorous voice to be felt and heard, to protect the interests of physicians *and thereby the interests of the people.* Make no mistake, and do not permit the people to make a mistake! The interests of the medical profession are intimately bound up with those of the people at large. What benefits physicians as a class will benefit the public.

GET SUBSCRIBERS AND DOLLARS

In another editorial, we invite the cooperation of our subscribers and friends to further our efforts to increase the subscription list of CLINICAL MEDICINE and thereby to enable us the better to accomplish the constructive program that we have outlined and upon which we have started.

Realizing that money talks and that it will make any proposition more interesting in every way, we have this offer to make. For every paid-up subscription that you send in, with your check, your own subscription will be credited with $1.00. If you are fully paid up for the current year, you have the option to have your subscription extended or to receive $1.00 in cash.

It seems to us that this is a good offer. If you will ask, say, ten of your doctor friends to subscribe and if you will procure their subscription, a ten-dollar bill will buy a mighty nice new hat for you, or it will do several other things that you have been wanting for long.

Now, then, if you like CLINICAL MEDICINE, and if you want to do your vart in making our work possible, get busy and procure those new subscribers for us. Your commission, we believe, should make it worth your while. Your help in the work we want to accomplish is needed. We have no fear of losing subscribers after they have once received The Journal for the space of a year. We are confident that they will stick even as you have been sticking. Will you help?

MONSIEUR COUÉ

We wonder how the omission of any mention of Coué, in CLINICAL MEDICINE, would be explained. Would it be taken as a deliberate ignoring of this interesting little Frenchman; as a contemptuous passing him by; would it be explained as careless neglect, or as a fear to tackle a subject that is not quite easy or simple? At any rate, we do not feel that any medical journal need ignore Coué or that it would be complete without taking account of Couéism.

Coué's optimistic and encouraging stimulation of the subconscious is, of course, nothing new. As we have read in numerous communications, it all has been done before. Nevertheless, the man merits approbation for having insisted on this wholesome philosophy at a time when the world, and especially his own country, is engulfed in pessimistic apprehensions of coming misfortune. The French are impressionable, their sympathies are readily enlisted and, yet, (an apparent contradiction), their scholars are among the most critical and the most difficult to convince. We may assume that Coué's rise to popularity in his home land is due to the fact that times and circumstances were favorable, that his message came at a psychological moment.

His popularity in our own country is by no means cause for surprise, either. No doubt, his philosophy is attractive; it is human; it appeals to the imagination. That expression, we realize, may be open to criticism. It is not intended to convey the idea that Coué is successful only in healing people who have nothing the matter with them, or who are afflicted with imaginary maladies. Still, supposing it were so. What then? As a great French clinician once said, a man who imagines himself ill is ill. Even if only his imagination is diseased, he is diseased. He needs help. If the mental help, the stimulation of his mind, the encouragement of the morale is sufficient, all the better. The point is, that the man improves men-

tally and physically; for, mind you, any mental irregularity or deterioration will cause corresponding physical malfunction.

Mr. Coué has the good taste and the honesty not to attack the medical profession and he is wise in refraining from doing so. Indeed, it strikes us (this is the writer's personal opinion) that it would be quite feasible to work with him or to employ his methods as a pleasing variation of the same principles that we have utilized for centuries.

The stimulating phase in Coué's methods lies in his optimism, in his cheery encouragement, in his appeal to faith in our inherent powers. These powers naturally are great and are not always called into play or, better, put to work sufficiently. We believe that Couéism means, in the end, courage, optimism, confidence, and that it accomplishes much in overcoming many ills that we are tempted to pooh-pooh and from which the patients, nevertheless, often suffer cruelly.

Incidentally, we like Mr. Coué's picture. He is not only an optimist, but we are sure, he has a keen sense of humor. He is not a fanatic. He doesn't deal with ideas or ill-digested alleged theories. He deals with what he has found to be facts. He is convinced of their truth and he bases his advice, his encouragement, his influence upon them. We might all take a leaf from Mr. Coué's book. It would help in many instances.

POPULAR EDUCATION IN MEDICAL MATTERS

We are informed that the McDonough County Medical Society (Illinois) decided to ask all its members to contribute articles on medical subjects of interest to the laity for publication in the lay press. Physicians may write on any subjects of their own choosing but, without advertising themselves. They may not offer adverse criticism; they may not mention irregular cults. The articles must be written in popular language and must contain between one and two thousand words.

At the St. Louis Meeting of the American Medical Association (1922), resolutions were passed to proceed upon an educational campaign for telling the public what medicine has done and is doing now for humanity.

Several of the state societies, we understand, have pursued a similar course. At its meeting in June, 1922, the Illinois State Medical Society passed a resolution to the effect that the House of Delegates of the Illinois State Medical Society go on record as endorsing a broad plan of publicity through pamphlets, addresses and the lay press, any or all, to the end that the public be enlightened on the truths and principles contained in the development, progress and present status of medicine in order to counteract the advertising propaganda of the many sects that claim superiority in methods of healing over those of established medical practice.

The Council of the State Society, at its September meeting, gave the matter thorough consideration to the end of carrying out the recommendations of the House of Delegates. A committee was appointed to execute the instruction of the Council in devising ways and means to educate the public to the dangers of medical practice by the untrained and uneducated. This committee was instructed to prepare and to supervise material that is to be printed in daily and weekly hometown newspapers, both English and foreign-language periodicals, throughout the state.

These articles will open the eyes of the people as to the progress of medical science and the consecration of the profession to humanity's welfare. *Their Contents Will Impress Specifically Upon the Public That a Sick Man Needs a Doctor And Not a Mountebank!* This propaganda for the lay press will be handled by reliable organizations, skilled in approved methods for securing results from educational publicity.

All this means a move in a direction that should long since have been followed. It is a truism that popular education in matters medical would help to improve the people's health and would arouse in them an intelligent interest in health matters which now they can not be said to possess. Popular views concerning health and ill health and concerning methods to restore health are often sadly twisted and would be laughable if the matter were not so serious.

There is one difficulty in the way of carrying out this campaign, and that is, the inability of most physicians to write in such a way as to arouse the layman's curiosity and desire to read. We, all of us, should benefit from studying the methods and the technic of newspaper men. These latter have discovered the way to reach the popular mind. Their writing is "different," somehow. It arouses interest. It stimulates the wanting to know and, yet, if you examine it closely, it is rarely brilliant. Nevertheless, newspaper writers usually get their message over.

Now, why can not we doctors learn to write in the same way? The people must know; they want to know. If we do not tell them facts, they will accept assertions made by those

who do not know but pretend to know. Every physician can learn to write simply, concisely and clearly. After all, if we can instruct our patients by word of mouth without using technical terms, we can do the same on paper. It may pay us, all of us, especially physicians in the country and in small towns, to get in touch with the press and to write brief but frequent articles on topics of general interest. Many of our friends are doing it. Many more should do it.

Let us make this campaign for popular education and information a general one. The people will soon awaken to the fact that, after all, physicians are their real friends and that they are their proper advisors in matters of health, hygiene and sanitation.

IS THE FAMILY DOCTOR PASSING?

In a letter recently received, a correspondent said: "I hope that the general practitioner is not doomed, although, sometimes, it looks as though his days were numbered, because of specialism."

There is a lot of calamity talk about the passing of the family physician. It strikes us that the family physician is less of an institution than formerly, not because there is less need of him (he is needed just as much) but because the material out of which they used to make family doctors is no longer available or available only in small supplies. Students in medical colleges are spoiled for family physicians and, to some extent, even for general practitioners. We have made a fetish of "scientific" work. We have stressed the laboratory investigation of patients too much and have neglected their clinical study, the bedside observations which enabled men like Hippocrates, Sydenham, Loomis, Austin Flint, even Osler to become great. We say, *even* Osler because, in some respects, Osler, too, was overly influenced by laboratory tests and suffered from an excessively critical attitude. For that reason, he denied so much. Still, it must be granted that the positive in him overbalanced the negative and we would by no means detract from his just claim to greatness as a clinician.

If more of our young men could feel the "call," the impulse, the urge to settle down as practitioners of medicine, to care for and heal sick people as individuals rather than as cases, the family physician, the general practitioner, would soon be restored to his rightful, important position. The confidence of the public must be earned. It can not be claimed without being merited. How many of the men in middle life or in early middle life (say, of those who are ten years out of college) do you know whom you would consider as fit to be "family doctors" of the kind that Ian MacLaren has depicted so beautifully? There are mighty few. They don't seem to grow them that way any more. And, yet, how much good those men did accomplish! They may not have treated their "cases" quite according to Hoyle, but they treated their sick people and they benefited the sick souls of the latter.

As Nascher says, human nature has not changed in the last forty years. Then why, in the name of all that is reasonable, can human nature not be served as well as it was forty years ago, plus the advantages of the progress made—providing that we have men who can give the service that is needed?

THE TECHNIC OF HYPODERMIC INJECTIONS

In our opinion, hypodermic injections should always be either endermic or intramuscular. If this expression is Irish and contains a contradiction, make the most of it.

The idea is this: A hypodermic injection, that is, the introduction of a quantity of solution into the areolar tissue below the skin, produces a swelling which often is painful and is absorbed but very slowly. Since the purpose of such an injection is, to introduce a remedy for rapid absorption into the circulation, the end is defeated, in a measure, which is one serious disadvantage. Another point is, that the pinching of the skin and the introduction of the needle cause more pain than is necessary. It seems to us that hypodermic, or subcutaneous, injections could be done away with altogether.

Endermic, or intradermic, injections are painful, to be sure; nevertheless, they are unavoidable at times, being required for diagnostic purposes. They have a scant therapeutic value, for the reason that has been mentioned in connection with hypodermic injections. Absorption is relatively slow and, therefore, the effect is delayed.

For therapeutic effect, we are convinced that the best method of injecting remedial agents parenterally is, by intramuscular injection. Not only is the technic much simpler but, in addition, absorption takes place very promptly. There is little or no swelling, the pain is relatively slight, and there is only a mild discomfort, hardly amounting to sore-

ness, persisting for a portion of a day after the injection.

Very occasionally, and only in exceptional cases, it happens that even intramuscular injections are quite painful and are followed by marked swelling and reactive inflammation. That, though, is the exception. In most cases, such accidents do not happen.

Of course, it is necessary to differentiate between bacterins (bacterial vaccines) and other therapeutic injections, such as preparations of iron, arsenic and other remedies. In the case of bacterins, we expect a reaction which is not only general (systemic) but also local and, if the patient is forewarned, there will be little objection. In fact, patients soon come to look for the reaction and fear that they do not get the full benefit of the treatment if the injection of a vaccine is not followed by swelling and soreness of the arm.

The circumstance that absorption proceeds promptly after intramuscular injection makes it possible to do away with intravenous injections. In fact, we remember several opinions to this effect being voiced by clinicians of note. While it must be admitted that the intravenous injection is the most rapid way to assure prompt introduction of a remedial agent into the blood stream, it can not be denied that there is always a certain element of danger connected with this method. Some people seem to be peculiarly susceptible to the slightest interference with the blood stream. Fainting, even collapse are observed occasionally. Moreover, it must not be forgotten that, at the seat of injection, a slight healing thrombosis occurs from which (in extremely rare instances) embolism has followed.

Such accidents, have, to our knowledge never attended intramuscular injections. These latter seem to us to be not only the least painful but also the most certain to produce results and certainly the least dangerous.

Years ago, when the present writer was in college, he was taught to hold the hypodermic syringe as one holds a pencil. This, we maintain, is an exceedingly faulty way of doing things. It is very difficult to manage the hypodermic syringe firmly and confidently. It is impossible to introduce the needle without producing much pain and, very frequently, the patient becomes disgusted with the "fiddling around" that the doctor indulges in.

When giving a hypodermic or, more correctly, an intramuscular injection, the needle should be held as the surgeon holds the knife, or as the cobbler holds the awl. That enables the doctor or nurse to guide the needle, to thrust it firmly and promptly into the tissues with the least possible amount of pain. Providing that the needle be small enough and that it be kept scrupulously sharp, the pain attending the little operation is negligible. It happens very frequently that our patients ask when we are going to give them the injection —when the syringe is already put away and the operation is all completed.

We have found the best way of giving an injection, to bunch a portion of the muscle of the triceps on the back of the upper arm, holding it with moderate firmness between thumb and index finger of the left hand. The loaded hypodermic syringe, provided with a sharp needle, is held in the right hand and plunged almost vertically into the muscle with a quick thrust. The patient will hardly ever flinch, showing that the pain is slight, if it is felt at all. Then the plunger is driven home with moderate force, the needle is removed and the place of injection is manipulated gently in order to prevent accumulation of the liquid in one spot. The better it is distributed, the more promptly absorption will occur.

As long as the skin of the arm and the hypodermic needle, as well as (*nota bene!*) the hands of the physician are clean, no antiseptic incantations are required. We do not bother with dabbing a little iodine on the skin, for the reason that this could not possibly destroy any germs that happen to be residing there, in the few seconds intervening between the application and the injection. The only precaution we do take is, to have skin, syringe and our hands clean. In the course of many thousand intramuscular injections that we have given, we have never seen the slightest evidence of "stich"-infection.

An injection of this sort can be made a torture and it can be made an extremely simple thing, according to the confidence that the operator has in his technic, according to the confidence and assurance that he manifests. If he fusses around, he will get his patients nervous. A calm operator will quiet the patient's apprehensions and even fussy patients will accept our treatments without contradiction and without fear—after the first experience which invariably reassures them.

It is quite a little art to give a proper injection. We know some doctors whom we should not trust, ourselves. We know others to whom we go unhesitatingly when we are in need of that sort of treatment.

Leading Articles

Surgery of the Thyroid*

By THOMAS A. CARTER, Chicago, Illinois

VERY little is known regarding the etiology of the different types of enlargement which occur in the thyroid, except that there are some drinking waters whose use results in the development of goiter in a more or less marked proportion of those who drink it constantly. Some authorities believe that certain types of enlargement are purely symptomatic, so to speak, and that the basis or origin of the trouble is in the cardiovascular or nervous system. Although this may be true, there is a different syndrome accompanying the different kinds of goiter. Furthermore, these symptoms will subside after the condition of the thyroid has been remedied.

The surgical treatment of cysts, adenomas, and colloid enlargements of the thyroid has been practised for a great many years, especially in Switzerland, where such conditions are very common. Only comparatively recently have operations been performed for the relief of toxic symptoms produced by thyroid changes.

Basedow, in 1840, first thoroughly described cases of exophthalmic goiter. By far the most important work in the development of surgery of exophthalmic and thyrotoxic goiters has been done by Ochsner, the Mayos, and Crile. Even now, operative results are not perfect; yet, the progress made in surgery of the thyroid in this country during the past fifteen or twenty years is certainly one of the most important advancements made in surgery during that period of time.

It is now generally conceded that most forms of toxic or exophthalmic goiter require surgical treatment for permanent relief. However, there are some forms, such as the socalled adolescent goiter, that respond to medical treatment and, often, some of the milder toxic types may be relieved without operative interference.

*Read before the Lake County Medical Society, November 23, 1922.

I shall not attempt in this paper to cover all the phases of treatment for thyroid lesions, but to present more especially a classification of these cases.

Four Groups of Goiter Cases

Enlargements of the thyroid fall into four distinct groups based upon the clinical features and the pathological changes in the gland:

Colloid Goiter

Group 1.—Colloid goiter is definitely a goiter of youth and is probably seldom seen in persons more than 35 years of age, most frequently occurring between the ages of 15 and 25. In this group are included many of the socalled adolescent goiters, the type which usually produces the uniform fullness of the neck so often seen in young women. Such types are not infrequently associated with nervous symptoms and menstrual disturbances. There may also be tachycardia, rendering the differentiation of exophthalmic goiter quite difficult, especially if it is of the vasomotor type with thrills and bruits.

The basal metabolic rate is, however, normal or slightly lower than normal, never increased. This type of goiter is recognized by the symmetric enlargement of both lobes and the isthmus of thyroid which it produces, and by the characteristic soft, granular feel it imparts to the palpating fingers. In many instances, it may produce no symptoms except slight nervousness or worry over the knowledge of the fact that it exists.

Microscopically, colloid goiter differs from normal thyroid tissue in that the acini are dilated and filled with colloid material while the epithelium lining the acini is low and flat in appearance.

Colloid goiter is the only type of goiter which disappears under administration of iodine, thyroxin, etc., and should not be considered a surgical condition. Its failure to

disappear under the administration of these agents probably indicates that it is not a simple colloid goiter but one of the mixed types often seen, in which a colloid goiter is associated with small adenomatous growths of the thyroid. Thus, a simple colloid goiter may later develop into adenomatous enlargements and produce slow pressure symptoms and evidences of intoxication. The simple adolescent goiter should be given an opportunity to subside under proper management and, if it does not disappear after puberty, a careful differential diagnosis should be made and operative treatment advised.

Adenomatous Goiter

Group 2.—Adenomatous goiter is the most common type. The characteristic symptom in the cases of this group is pressure. The enlargement is due to the presence of the adenoma. The enlargement may be present for some time before symptoms arise. These symptoms are usually choking, shortness of breath, and a sense of pressure. The tumor may increase in size until there is a marked deformity of the trachea and larynx, and perhaps, but very rarely, a paralysis of the recurrent laryngeal nerve.

Although this type often seemingly develops in persons of middle age, the probabilities are that its true origin in such persons dates back to early life, as by far the greater number of patients give a history of having first noticed the enlargement of the thyroid at some time between the ages of 15 and 20.

The enlargement of the thyroid is produced by the growth, within the substance of the thyroid gland, of encapsulated adenomas which probably have developed from fetal rests. These growths of adenoma begin in early life and they may increase in size either slowly or rapidly. At times they produce an enormous enlargement of the thyroid gland, and most of the larger goiters are of this type.

Degenerative changes are prone to occur, usually through hemorrhages within the capsule of the adenoma, and, according to the degenerative change which predominates, the various clinical varieties of goiter, such as hemorrhagic, cystic and calcareous, have received their names. There is not infrequently a decrease in the secretory activity of the gland, producing a condition of *hypothyroidism* with a lowered basal metabolic rate. This condition does not always remain nontoxic, for about 25 percent are found to be suffering from *hyperthyroidism.* But the symptoms of hyperthyroidism usually do not develop until the goiter has been present for some years (15 or 20). The hyperthyroidism which we find associated with adenoma produces a clinical picture different from that seen in exophthalmic goiter. The two conditions are often confused.

Adenomatous goiters seldom produce toxic symptoms in persons under 30. When toxic symptoms develop, the metabolic rate is found to be increased, although it is not so high as the rate in cases of exophthalmic goiter. The body is differently affected by long-continued mild hyperthyroidism in this disease and by the rapidly increasing, severe hyperthyroidism of exophthalmic goiter; in the former, the cardiovascular system suffers more severely, while in the exophthalmic goiter the nervous system is more profoundly affected. Often the condition goes unrecognized until the symptoms of myocardial degeneration occur and the patient begins to suffer from palpitation, arhythmia, and (later) dyspnea and edema. Unless the myocardial changes are very marked, the condition is almost always associated with increased blood pressure. Other symptoms of hyperthyroidism, such as tremor, flushed moist skin, tachycardia, and loss of weight and strength, are present.

Clinically, adenomatous goiter may be recognized by the irregular type of growth which it produces—the thyroid is asymmetrically enlarged and a single or many rounded tumors may be felt on palpation. These tumors may be cystic, soft, hard, or even stone-like on palpation, according to the degenerative changes that have occurred.

Microscopically, areas of encapsulated adenomatous tissue are found scattered throughout the thyroid gland. The acini in these adenomatous areas may be of fetal type or they may resemble the acini in the fully developed thyroid when they often contain large amounts of colloid material. Up to the present time, it has been impossible for pathologists to note definite changes in either the thyroid tissue or the adenomatous tissue in toxic adenomatous goiters by which a diagnosis of hyperthyroidism can be made.

Adenomatous goiters are, in the majority of instances, best treated by surgical measures; but, in advising operation, certain factors should be taken into consideration. Since it is known that these goiters do not produce toxic symptoms at the time of life when they usually develop, and that the thyroid gland at that particular time of life is very

essential, it seems best to defer operation in young persons. Moreover, these growths usually involve both lobes of the gland and, when young persons are operated on, it is quite likely that small adenomas that cannot be palpated will be left, even after the thyroid is exposed, increasing the chance for recurrence of the goiter.

For these reasons, we usually recommend that small adenomatous goiters in young persons be not treated surgically until the age of 25 or over, excepting in instances where the goiter has increased in size and causes considerable pressure or deformity. In a healthy person at this age, a thyroidectomy may be done with such an extremely small risk that it seems better to advise operation than to allow the goiter to remain.

These patients frequently say that they are not inconvenienced by the enlargement at all, and they are rather inclined to put off surgical treatment. I believe it is much better to remove the adenoma before any nervous or toxic symptoms develop, as more of the danger in these operations results from the condition of the patient at the time of the operation itself.

Exophthalmic Goiter

Group 3.—Exophthalmic goiter may occur at any age, but is probably most often seen in the third and fourth decades of life. In many instances, the condition develops suddenly, with rapid increase in the severity of symptoms. In some patients, though, its onset is insidious and severe symptoms do not develop until the second six months of the disease, at which time the patient often passes through a period of severe toxemia in which all the classic symptoms of exophthalmic goiter are present. This period is termed a "thyroid crisis." It is very important never to operate when patients are in this acute condition.

The goiters of this group may be divided into two distinct types. One is comprised of the hyperplastic thyroids producing the symptoms of exophthalmic goiter; the other is characterized by the toxic degenerating adenomatous thyroid producing what Kocher calls "the goiter heart." Although these two types differ in many respects, it is entirely possible that the symptoms are produced by the same agent, or toxin. An exophthalmic goiter is a definitely hyperplastic thyroid. Hyperplasia is usually present throughout the entire gland. Although a small part of the thyroid may appear to be nearly normal, areas of hyperplasia exist on other portions of it. Usually there is a general enlargement of the gland, although, sometimes, the most severe symptoms are noted when the gland is barely palpable. Occasionally the gland is not only hyperplastic but contains adenomas. This type of thyroid is usually firm, hard, and very vascular; on palpation, the gland in nearly all instances will be found to be symmetrically enlarged and quite hard. Microscopically, the epithelium lining the acini is found to have undergone the hypertrophic changes which are characteristic of this disease. Except in the late stages, very little colloid material is found in the acini.

Clinically, the condition may be recognized by the presence of such symptoms as nervousness, tachycardia, tremor, flushed moist skin, and loss of weight and strength beginning shortly after the onset of hyperthyroidism, and an increased metabolic rate.

The best results in the treatment of exophthalmic goiter are obtained through surgery. It cannot be denied that certain patients improve and apparently recover under medical treatment. In the beginning of the disease, however, it is impossible to distinguish between the patients who may fall in this group and those who are destined to suffer severe damage as the disease progresses. Great responsibility is assumed, therefore, by advising medical treatment in early cases in which thyroidectomy might prevent development of the severe conditions, and, in many instances, the death of patients who would fail to improve under medical treatment.

The mortality following surgical procedures in this disease has gradually decreased until it is possible, by present-day methods, to operate in a large number of consecutive cases of exophthalmic goiter without a death.

Malignant Goiter

Group 4.—Malignant goiters. The basis of a clinical diagnosis of malignancy of the thyroid is usually the hardness of the tumor. Often the tumor of the thyroid is very small in the early stages and difficult to diagnose, except histologically, until the growth has extended into the surrounding tissues and involves the recurrent laryngeal nerve, frequently producing a total loss of the voice. When the cartilaginous rings of the trachea become infiltrated, there is great difficulty in breathing, at least more marked than seen in benign cases.

Fortunately, sarcoma and carcinoma of the thyroid are very rare and seldom recognized

until pathologic sections are made; operative procedure in this class of cases is very unsatisfactory and they are best treated with radium and x-ray.

Features of the Technic

A great deal has been said regarding the anesthetic which should be employed and many different views have been expressed. Dr. A. J. Ochsner, of the Augustana Hospital, has, for many years, used to good advantage a combination anesthetic consisting of morphine, gr. ¼, and atropine, gr. 1/150, administered one hour and a half prior to the time for operation; and morphine, gr. 1/6, and atropine, gr. 1/200, one-half hour before operation. This is given hypodermically. At the time of operation, the line of incision is injected with a small amount of ½-percent procaine. The operation then may begin, ether seldom being necessary. Where a combination of the above is used with ether, the patient is anesthetized very slowly but very thoroughly and the head of the table elevated when anesthesia is complete.

The actual technic of thyroid surgery is more difficult than that of surgery in any other region. Experience and continual improvements in technic have helped in the control of the blood vessels during thyroidectomy. In the hyperplastic thyroid, all the superficial vessels are dilated; there is oozing from all the smaller vessels, and bleeding is hard to control. But, the most serious difficulty arises from the slipping of the inferior thyroid vessels backward beneath the cervical fascia. If this occurs, dissection should be made under the fascia and the vessels be ligated. If the vessels are not tied, bleeding may continue under the fascia into the mediastinum and prove serious, if not fatal. In thyroidectomy, even the smallest vessels should be carefully ligated. The slightest oozing afterward may produce a clot, causing tracheal pressure and difficulty in breathing. It is best to apply forceps to the tissues step by step and to cut between the forceps.

Injury to the trachea or parathyroids and a possible tracheal collapse during the operation can best be avoided by preserving the fascia about the trachea and larynx and possibly leaving some thyroid tissue over the cartilage. When this is done, the postoperative convalescence is much easier, coughing and irritation less, and the accumulation of mucus in the trachea and larynx greatly diminished. This I consider a very important factor in the technic of thyroidectomy. The posterior capsule of the thyroid and a layer of thyroid tissue should always be left in place.

Injury to the recurrent laryngeal nerve, though not common, is most exasperating. It is important to note the condition of the vocal cords, voice, etc., before operation; for, there may be some degree of paralysis of which the patient is unaware. The loss of voice following thyroidectomy may also be due to grasping the recurrent laryngeal nerve in the hemostat or may be caused by a change in the position of the larynx and trachea resulting from the removal of the thyroid.

Amount of Thyroid to Be Left

There has been considerable discussion as to the amount of thyroid which should be removed. Extirpation of the entire gland will result in serious changes from the loss of thyroid secretion. On the other hand, if a sufficient quantity is not removed, there will be a recurrence of the symptoms. However, experimental work on animals shows that, if a very small piece of thyroid tissue is retained with its circulation and nerve supply, myxedema will not develop. By preserving more of the posterior capsule, we avoid injury to the parathyroids; and it is to be kept in mind that temporary tetany may result from trauma even of the parathyroids.

The results obtained following thyroidectomy depend largely on the condition of the patient at the time of operation and on the extent of damage to the vital organs at the time of operation, the best results being obtained in patients operated on early in the course of the disease, before severe damage to the organs has occurred. Patients should never be operated on during an acute exacerbation of the hyperthyroidism. If the damage to the circulatory organs, especially, has been extensive, it is impossible to restore the patient to normal health; for, true organic damage cannot be repaired. The operation, however, usually stops the hyperthyroidism and great improvement follows.

In conclusion, it may be said that, at the present time, the surgical treatment of lesions of the thyroid rests on a definite clinical and pathologic basis, and that the results more than justify this method of procedure. Most excellent results are constantly being obtained by the removal of the goiters producing toxic symptoms.

Butyn–A New Local Anesthetic

A Summary of about 500 Cases

By R. ALLEN GRIFFITH, Chicago, Illinois

IN March, 1921, I was requested to conduct a series of clinical trials with a new local anesthetic, butyn (para aminobenzoyl gamma di-n-butyl-amino-propanol sulphate), in infiltration anesthesia. I was conducting a clinic in prophylaxis and oral surgery, at the time, and had much clinical material to choose from.

Clinical Experiments a Relative Guide Only

Having no clinical experience to use as a guide, I studied the reports of the animal experiments that had been carried on by the physiologic investigators; realizing, however, that, while such experiments are useful as a guide to our clinical work, the safety in dental use of anesthetics of this character cannot be judged by the comparative toxicity on lower animals.

Each anesthetic of this class seems to have a "selective toxicity." Injected subcutaneously, cocaine, for instance, is approximately seven times as toxic on cats, and approximately eight times as toxic on dogs as on rats. Butyn, on the other hand, is twice as toxic as cocaine on rats, but on cats and dogs it is less toxic.

It is of interest to note that, when a dog is given a high sublethal dose of cocaine, it is sometimes 24 to 48 hours before it completely recovers. If given a large sublethal dose of butyn, it usually totally recovers in an hour or two and apparently feels as well as ever; due, no doubt, to the rapid elimination of butyn.

Selection of Patients

From these considerations, we decided that it was safe to use butyn on a human being. So, we chose a strong, healthy specimen—a policeman (their business is, taking unknown chances, anyhow), the operation being the surgical removal of a tooth with a large granuloma at the apex.

The pulse and blood pressure were found to be perfectly normal and the sphygmomanometer was left in position during the operation, the blood pressure being taken once during the operation and again at its completion. A constant check was kept on the pulse and, at no time, was there the slightest change in either blood pressure, pulse, or color. Time of operation, one-half hour.

No adrenalin (ephinephrine) was used in connection with butyn in any of the earlier cases, because we wanted to be able to note any physiologic effects of butyn uncomplicated by other agents.

We chose decidedly phlegmatic patients for the first experiments, but, later decided to try the drug on some of highly neurotic temperament. As any disturbance in this class of patients is mostly psychic, we allowed them to sit to one side of the clinic room where they could see us working on patients but not see the operation. As these patients smilingly left the operating chair and assured us that "it did not hurt a bit," the neurotic patients were reassured and in no case in the clinic did we have a patient show more than a slight paleness, due to fright.

I have now been using butyn exclusively in clinics and in my private practice since March, 1921, and have used it in several hundred operations, a few of them having taken from one to two hours of time. All of my operations have been done under infiltration anesthesia, usually 2 percent, although I have found 1 percent sufficient in many cases.

A Few Unusual Cases

During this time, I have had just three extraordinary cases. One of these was in a trained nurse with a neurotic temperament who complained of a cocaine idiosyncracy. Believing her trouble to be purely psychic, I explained butyn and the results of my experience with its use to her. Immediately after a small amount had been injected, she turned pale and fainted. Respiration almost stopped, the pulse was rapid and irregular. We worked with her for two hours before she was able to leave the office, and the teeth were not extracted. My faith in butyn was such, however, that I decided to try it again, as I believe her trouble to be entirely psychic and not due to any toxic action of the drug.

Two weeks later, I induced her to try again. I had my assistant prepare a solution of butyn in the laboratory, while I prepared a Ringer solution before her, not telling her what it was. I had no sooner started the injection of the Ringer solution than she started her performance just as before. When she came out of the first faint, I shook her roughly and showed her the tube of Ringer tablets, telling her that her trouble was all foolishness and that I intended injecting a little more of the Ringer solution, explaining to her that the infiltration of a physiological saline solution would sometimes produce anesthesia as well as an anesthetic. All this time, I held the hypo-

dermic in front of her. As I put the fingers of my left hand in her mouth to finish the injection, I dropped my right hand behind me for an instant, my assistant changing hypodermics instantly. The injection of butyn was made and the teeth extracted with no further trouble. Since then, I have twice operated on her, using butyn, with no sign of any reaction.

The second case was entirely different. My assistant injected 3 Cc. of a 2-percent solution of butyn and the patient still complained of pain, even to the prick of the needle. I concluded that we had possibly found a patient who was immune to anesthesia from butyn, so I prepared a 2-percent solution of cocaine and injected 3 Cc. of that. She still complained of pain when the tooth was touched; so it was extracted with gas.

The third case was that of a man. Before the injection was completed, he turned pale, the pulse became rapid and irregular. But, before he fainted, I gave him 2 ounces of whisky. For a few minutes, the pulse was so rapid and irregular that it could not be counted; however, it soon returned to normal, the injection was completed and the operation performed with no signs of further reaction. He stated that he always had the same experience even if he cut his finger.

My conclusion in all of these cases is, that the reactions were due entirely to psychic disturbances and not to the effect of the drug.

Right here, I would like to state that whisky is just as indispensable in the dental office as is the dental engine. Almost every dentist uses local anesthetics and there is nothing so necessary in case of reactions and shock as whisky. Strychnine, nitroglycerine, camphor or heroin injected subcutaneously are unpleasant to the patient; do not give as quick and satisfactory results; besides, the hypodermic syringe and solutions are never ready. Yet, the dentist must beg a prescription of some friendly physician or patronize a boot-legger. In other words, he must break the law in order, perhaps, to save a life.

Conclusions as to Butyn

My clinical experience with local anesthetics, cocaine, novocaine and butyn, extends over a period of 22 years. I have used all of them in various concentrations for all types of dental operations, and have reached the following conclusions in regard to butyn.

1.—Butyn is fully as rapid in its action as cocaine and far more rapid than procaine. I start to operate the moment the injection is finished.

2.—Butyn produces an extremely intense and deep anesthesia.

3.—Butyn seems to be far more powerful than procaine and lasts longer. It lasts still longer if combined with just sufficient epinephrine (adrenalin) to control hemorrhage. In most cases, I use butyn alone.

4.—Butyn solutions are mildly antiseptic and wounds heal rapidly.

5.—There is seldom after-pain, if sharp and broken pieces of process are not left.

6.—There are few reactions on pulse, respiration, or color. Toxic manifestations of any kind are extremely rare.

I have also found butyn very efficient in numerous other ways.

In scaling and planing the necks of the teeth, especially in deep pockets, I frequently dip the instrument in powdered butyn or a saturated solution of butyn, each time it is inserted into the pocket. This not only reduces the pain, but, owing to the antiseptic properties of the drug, results in rapid healing as well.

I have found a solution of phenol, eugenol and butyn a great help in drilling sensitive cavities. A pledget of cotton saturated with the mixture is placed in the cavity for a couple of minutes and a small amount of the decayed dentine removed after each application. It works especially well in removing the softened dentine from children's teeth.

In several cases of extraction in children's teeth and in teeth loosened from pyorrhea, I have obtained sufficient anesthesia by simply dipping two pieces of wet cotton in powdered butyn, placing them in position on the gum on both sides of the tooth, covering them with a couple of pieces of oiled silk and applying gentle pressure with thumb and finger for a few minutes.

This method is also used to prevent the pain of inserting the needle when the patient is extremely sensitive.

I discontinued the use of conductive anesthesia several years ago, because infiltration is just as efficient, far less dangerous, lasts just as long, and saves time. I operate the moment the infiltration is completed.

I have used butyn in conductive anesthesia in only two cases and obtained complete anesthesia in about five minutes.

While these two cases are too few to base any judgment on, yet, they lead me to believe that butyn will be found to be more than twice as rapid in action as procaine in cases of conductive anesthesia.

The Treatment of Chronic Myocarditis

By WILFRED G. FRALICK, New York City

WHEN all is said and done about the treatment of various chronic cardiac affections, the fundamental goal alone remains, that of successfully combating the myocardial incompetency. In the volumes that have been written upon the subject, and which contain numbers of pathological classifications of causes affecting the heart muscle, it is really only in the acute stages of myocardial disease that the etiological factor predominates in the clinical picture, such as diphtheria, various fevers in association with pericarditis and endocarditis, etc.

It is, however, during the chronic stages of myocardial insufficiency that the physician is most frequently consulted, usually by patients of middle age, who, otherwise apparently robust, have been suddenly aroused to the necessity for medical advice on account of dyspnea, precordial distress, increasing fatigue after physical or mental exertion, and, at times, insomnia. In addition, any one of a number of gastrointestinal and renal symptoms may be the first signal, such as anorexia, indigestion, flatulence, or, upon examination, albumin in the urine.

Regardless of the character of the pathological changes in the heart muscle, or whether the exciting cause arises within the heart itself or outside of it, the clinical symptoms and the indications for treatment depend upon two important factors; first, taxation upon the functional capacity of the heart; and, secondly, interference with its nutrition.

Condition of Heart Muscle Important

When we discuss the treatment of myocardial incompetency, we are considering the whole subject of heart disease. Furthermore, in thus approaching the clinical aspect of the subject, there is joined thereto the additional feature that, unlike other parts of the body, the heart must continue to function for the rest of the body as well as for itself, and that it cannot become the subject of manipulation or direct therapeutic intervention. Therefore, no adequate conception of cardiac therapeutics is possible without establishing the heart muscle as the basis for the treatment, both as to its functional capacity as well as its recuperative power. Disregard of this self-evident fundamental requisite probably has been the chief cause for many failures in cardiovascular therapy.

The traditional routine employment of auscultation has caused us to place too much reliance upon the stethoscope alone which, after all, furnishes relatively little information about the myocardium in comparison to the valvular defects, which may be marked in conjunction with a perfectly functioning heart muscle, and vice versa. The number and varieties of cardiac pathological changes seen at autopsy in patients, who have died at advanced ages and from intercurrent affections, corroborate this.

There exists in every heart, in health as well as in disease, a "sinking fund" of reserve energy. In health, this is drawn upon under exertion and any undue or unaccustomed demand upon the heart muscle. In disease, this reserve power furnishes the recuperative power of the organ, until such a time as compensatory energy and hypertrophy become inadequate. And it is here that the line of demarcation is established between premature and prompt therapy.

The environmental conditions are of extreme importance to the heart muscle. As vividly expressed by William Dean Collier[1] "Physiologic and anatomic changes in the vital phenomena of the heart muscle occur in response to changes in its environment, these changes being stimuli, either quantitative or qualitative, although the primary effect of the stimulus upon the cell is always quantitative. All changes in the vital processes of the cell due to external conditions are manifestations of irritability, the two processes of excitation and depression being displayed. Excitation involves increased depression, decreased response of the specific mechanism depending upon the intensity, duration, and kind of stimulation."

Need of the Simple Life

Hence, the importance of regulating the lives of patients suffering from myocarditis, by cautioning them against intemperance in eating and drinking, interdicting alcohol and also tobacco where necessary, advocating rest, advocating exercise as may be adaptable to each case, and freedom from worry and excitement. As long as compensation is preserved, medical advice is usually not enlisted, while the compensatory hypertrophy is of course unknown to the patient. In this stage, as a very useful measure, golf is an excellent form

of exercise, as it is not only obtained outdoors (thus supplying the body with oxygen, often so badly needed in these cases), but is one of the forms of exercise the quantity of which, at a given time, can be regulated.

Rapidity of the heart action and especially palpitation, frequently combined with a beginning dyspnea, are often the first symptoms indicating a disturbance of the cardiac muscle. Here, the temptation to give cardiac drugs often beclouds the judgment of the physician. A free purgation, enforced rest, or abstinence from any of the frequent causes for cardiac irritability, may cause a prompt readjustment. Restriction of diet, both as to quantity and character of the food, is now indicated. Continued catharsis, however, is contraindicated, as, in the first place, it weakens the patient and, secondly, interferes with the tonicity of the gastrointestinal mechanism.

There are, of course, unfortunate emergency cases where there is no possibility of regaining the lost compensation and where sudden death occurs. There are also cases associated with sclerosis of the coronary arteries, and of grave prognosis; and there are those in which the principal manifestation is that of angina pectoris, as well as those with acute dilatation and even rupture of the heart muscle. But, the average case of myocardial inadequacy, as a rule, presents a stage for intelligent and common-sense supervision and management that will offer many years of comfort and physical stability.

With the proper cooperation of the patient, there are few instances of such gratifying results as those manifested in properly managed cardiopaths, with whom there remains for many years a credit balance in the ledger of health. This is, after all, but the maintenance of a tonicity that preserves the equilibrium between the heart muscle, the tensile response of the walls of the arterioles, and the nourishment of the cardiac musculature, assisted by the recuperative period between the heart beats. Indeed, according to Norman W. Markwell[2] an initial intrinsic period of ventricular systole exists and can be recognized. This initial intrinsic period is the measure of the reserve of the heart muscle. Its duration can be determined by the trained ear, and it can be demonstrated in the cardiogram. Shortening of the initial intrinsic period is a necessary accompaniment of a lessening of the reserve in the initial stages of which there are, typically, no heart symptoms. Immediately after the commencement of ventricular systole, the heart impinges against the unyielding tissues anterior to it. Ordinarily, this occurs at the point of the normal apex beat. The periodic incidence of this moment is variable.

When Cardiants Are Required

Assuming that, in spite of the reciprocal cooperation of physician and patient, evidences of failing compensation appear, and the heart can no longer supply sufficient reserve power unassisted, we are now obliged to change our management from defensive to aggressive therapeutics. Our best weapon is digitalis. There are many valuable drugs for heart disease, alone and as adjuncts to digitalis. There is no drug, however, in my experience with diseases of the cardiovascular system associated with failing compensation, that displays the selective affinity for stabilizing the disorganized rhythm, strengthening the heart, and relieving distressing symptoms, like digitalis. Quite often, it will be found necessary to combine it with nitroglycerin or strychnine, or to give additional drugs for associated indications; but, I have found it indispensable as the basis for cardiac therapy characterized by decompensation, unrelieved by management other than medicinal.

The preparation, dosage, and method of administration are important. The dosage depends upon the potency of the preparation and the facility with which it is absorbed. It is astonishing at times to observe the variability of tinctures, which has caused me to discard them entirely. Digitalis is one drug which, from my observations, does not lend itself to the preparation of a tincture of constant therapeutic activity. The initial dose of one of the potent and uniform preparations, among which I have found the soluble digitoxin of Cloetta[3] (known as digalen) to be therapeutically the most reliable, is from 10 to 15 drops, two or three times daily. In cases of emergency, this preparation lends itself to instant intravenous administration with prompt cardiac response and will tide many a case over a grave crisis. I first made use of digalen while making a clinical investigation of digitalis, a number of years ago, and, in a previous article[4], I was able to show the prompt and pronounced increase of leucocytosis produced by intravenous injections in patients requiring operation but in whose cases operation had to be delayed until a higher resistancy had been established which made operation safe. In my various experiments, the results obtained from digalen were so constant

that I have come to rely on it in all conditions in which digitalis should be employed.

It can also be given per rectum. According to Erich Meyer[5], in the case of patients who vomited or were refractory when the preparation he prescribed was given by mouth, his results by rectum were sometimes better than those obtained by intravenous administration. The good effects are explained by the easy absorption of aqueous solutions from the rectum and the transmission through the inferior hemorrhoidal veins direct to the vena cava, as, even if there is congestion in the portal circulation, a collateral circulation develops through the superior and inferior hemorrhoidal veins. The author alternates, ordinarily, between rectal and intravenous administration, but prefers the rectal when the skin veins are badly situated, when there is marked edema, danger of thrombosis, in cases of long-continued congestion of the liver, and in cases in which, for external reasons, intravenous injections cannot be given continuously. But, the intravenous and rectal administration must be alternated, or the former must be discontinued entirely.

Causes for Cumulative Effect and Gastric Irritation

I have been convinced for some time that the socalled cumulative effect of digitalis, and the one-time supposed contraindication for its employment (that of fever) as well as the occasional gastric irritability following its oral administration are but different manifestations of variations in the preparations and the naturally resulting difficulty of controlling its physiological action. Digalen appears to be exceptionally free from these objections. According to Pardee[6], patients with auricular fibrillation may take digitalis continually *all of their lives.*

Of course, there are cases of heart disease with gastric irritability, but otherwise the stomach ought not to be directly deranged by a good preparation. Where such irritability pre-exists, oral administration should temporarily be suspended; or, as Hare[7], has pointedly said, "Often, when a patient has been taking an ordinary preparation of digitalis without good results, I have seen the use of a physiologically-tested and active preparation to good." My experiences with digalen substantiate this. When very large doses are administered, it is probably true, as observed by G. Canby Robinson[8], that nausea and vomiting are due to direct action on the vomiting center in the medulla, and are an evidence rather of potency than irritability, and that preparations which fail to produce this central nausea and vomiting, when given in large doses, are either weak or not well absorbed.

The musculature of the heart is the engine whose motive power is the basis for therapeutic calculation in heart disease, and furnishes the indications and contraindications for drug therapy. It is one of the structures that cannot be laid up for repairs, and imposes upon the physician the dual responsibility of furnishing for the cardiac engine both the steam and rest while it is in motion.

Finally, there are cases of myocardial failure with hypertension producing great distress upon the heart chambers, for which venesection will do a great deal of good and assist in tiding the patient over critical periods.

Each case should be carefuliy studied as an individual problem, and the condition of the heart muscle be the guide for therapeutics.

[1]William Dean Collier, *Jour. Med. Research,* 43:207, April-May 1922.
[2]Norman W. Markwell, *Med. Jour. Australia,* 2:537, Sidney, Dec. 10, 1921.
[3]Cloetta, *Munch. Med. Woch.* 1904-33-p. 1460.
[4]W. G. Fralick, *Med. Times,* Aug., 1916.
[5]Erich Meyer, *Berl. Klin. Woch.,* 1:57, Jan. 8, 1922.
[6]Harold E. B. Pardee, *New York State Jour. Med.,* 22:131, March, 1922.
[7]Hare, "Practical Therapeutics," Lea & Febiger, Philadelphia.
[8]G. Canby Robinson, *Medicine,* 1:1, No. 1, May, 1922.

IF in therapeutics, we lose faith and hope, we become in a measure paralyzed, and what is perhaps worse, we develop an underlying feeling that we are sailing under false colours and are not giving a QUID PRO QUO, or as Goodhart puts it, a QUO PRO QUID. Today surely there is no room for faithlessness nor hopelessness; our knowledge is infinitely wider and surer; it still is very necessary to keep the judicious and critical mind, but our power over disease is daily increasing.—THOMAS BODLEY SCOTT: *"Modern Medicine." 1916.*

Chronic White Spots in the Skin

An Important Sign in Epilepsy

By EDWARD A. TRACY, Boston, Massachusetts

Neurologist, School Physician in Charge of Clinic for Nervous and Epileptic Children, Forsyth Dental Infirmary, Boston, Massachusetts.

IN my student days at the Harvard Medical School, some years since, it was taught that signs were more important than symptoms for diagnosis, for the reason that signs are objective while symptoms are subjective and can be feigned.

Let me present, for the consideration of every practitioner, an important sign in epilepsy—chronic vasoconstriction spots, chronic white spots in the skin.

It is one of the new findings in this disease reported by me in the *Interstate Medical Journal* (May, 1917). The findings therein reported are enumerated thus:

1.—Chronic vasoconstriction spots.

2.—Abnormal reflex vasoconstriction phenomena.

3.—Increased tonicity of sympathetic fibers, preceding convulsive seizures.

4.—Abnormal face reflexes.

5.—Hypercontent of adrenin in the blood stream.

6.—Lowered content of lime in the bones.

Through the kindness of Dr. E. E. Southard, at that time Professor of Neuropathology at the Harvard Medical School, I was enabled to examine a considerable number of epileptics in the Monson state hospital and to verify the commonness of most of these findings in this affliction.

Professor Southard's interest in epilepsy had already been manifested by the publication, in 1908, of his thoughtful and fruitful paper "On the Mechanism of Gliosis in Acquired Epilepsy." It was this that led me to report these findings to him and, indeed, it was his authoritative statement, that no similar findings had been hitherto reported, that led me to designate them as "new" findings.

The first of these, the chronic vasoconstriction spots, interested him particularly, an interest manifested by the following note he sent me:

Psychopathic Hospital,
74 Fenwood Road, Boston.
Sept. 18, 1916.

Dear Dr. Tracy:

I think the proof of Tracy spots should be made photographic and I am wondering whether you would not show us some of the spots . . . at the Psychopathic Hospital and allow me to get Mr. Herbert W. Taylor, a very competent photographer, whom we have used in photographing lesions very difficult to show in pellagra, to photograph the spots.

Yours sincerely,
E. E. SOUTHARD,
Director.

Following the reception of this note, I brought (Sept. 25) a case of chronic epilepsy

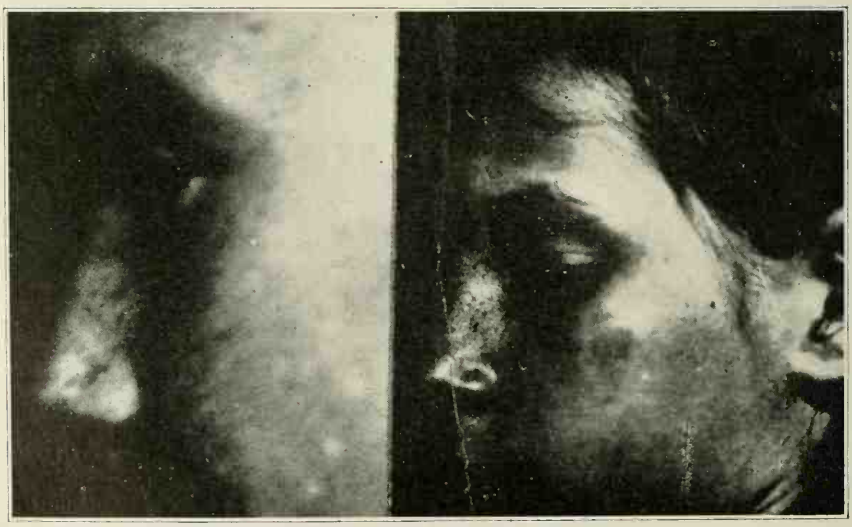

Fig. 1. Fig. 2.

Fig. 1. Showing chronic vasoconstriction spots on left cheek of boy.
Fig. 2. Chronic vasoconstriction spot on left cheek of girl. The heart-shaped dark patch over the cheekbone is a birthmark—a naevus; to the right of it is seen the chronic white spot.

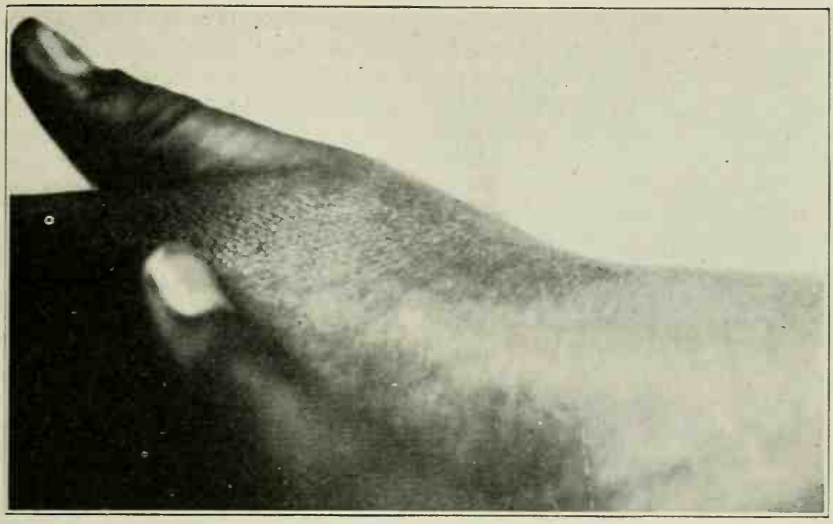

Fig. 3. The back of left hand and wrist of a girl 15 years of age, showing a chronic vasoconstriction spot. (The thumb of assistant who held the hand in position while being photographed is also shown.) This is from a case of incipient epilepsy.

(the patient upon whom the spots were first noticed) to the Psychopathic Hospital and, after showing the spots to Dr. Southard and Mr. Taylor, the spots were photographed. Mr. Taylor, having some doubt as to the spots showing well in a photograph, took six consecutive exposures. The spots showed clearly on every plate. Moreover, on some of the plates, phenomena were noticed that confirm the finding of an increased tonicity of sympathetic fibers in the period preceding a convulsive seizure. The photos happened to be taken about ten hours before the patient suffered a series of severe convulsions, as is related in the *Boston Medical and Surgical Journal* for Jan. 2, 1919.

I present to the readers of the JOURNAL a few photographs of chronic vasoconstriction spots, taken from cases of epilepsy treated at the epileptic clinic of the Forsyth Dental Infirmary. They were taken at the clinic by Dr. Arnold Donowa.

I ask the JOURNAL'S readers, such of them as treat cases of epilepsy, to look for these spots on the arms, backs of the hands, and on the face. The spots are invariably present in cases of epilepsy. They are chronic in location, not ephemeral.

They have a diagnostic importance since they are present in incipient cases of the disease, before any convulsions have occurred. The importance of recognizing epilepsy in the incipient and most curable stage need not be dwelt on in this communication. The subject was carefully treated in a paper read at the Boston meeting of the American Medical Association, June, 1921, and published in the *Medical Record,* March 11, 1922. In the chronic disease, the presence of the spots in conjunction with other objective signs, certain abnormal vasomotor reflexes, furnish trustworthy data for making an accurate diagnosis of epilepsy, independent of any history in the case. I will relate one out of many illustrative cases.

One Sunday morning (March 16, 1919), I was called to see H. E., aged 51 years, who had fallen in the bath room of his lodging house. Found him unconscious, and had him carried to his bed. (His landlady informed me that her lodger was in the habit of taking liquor Saturday nights, and she believed he had taken too much the night before.) After a while, during which he rambled in speech, he became conscious and complained of pain in his back. Examination showed local tenderness over the seventh and eighth ribs (left back). On left forearm, near wrist, were two intensely white vasoconstriction spots. Vasomotor testing showed unbalancement of the vasoconstriction reflexes, and a hypertonia of the sympathetic fibers supplying the blood vessels in the right cheek. On inquiring for his previous history, I found him non-communicative; denied any previous similar attack. Evidently an intelligent American, I deemed it well to try for further information and, suddenly bringing to his attention the white spots near his wrist, I said that the examination I had made in conjunction with these spots informed me as to his condition, that he need not hide his history from me; that he

had epilepsy. He then admitted having had several previous attacks of *grand mal;* that in his boyhood he had frequently fainted at the sight of blood; that all his life he had been subject to dizzy attacks, which, when severe and causing him to fall, were attributed to "biliousness." In one of his previous *grand mal* attacks, he had suffered fracture of ribs. In this case, the reticence of the patient in giving a history, before being confronted with the tell-tale spots, may be accounted for by a fear of losing his employment were his condition known, he being connected with the Government service.

The spots are not always readily detected. Most of the times, their tint differs but little from that of the surrounding skin. This doubtlessly accounts for the fact that they have escaped the notice of previous investigators. However, when once the attention has been directed to the spots, even when not intense in character, they are readily recognized. This I know from experience with many nurses at my clinic for epileptic children at the Forsyth Dental Infirmary. The nurses readily detect the spots on the new cases appearing at the clinic for diagnosis and treatment. Furthermore, several parents, after their attention had been directed to the spots in the cases of their children, have reported later that they noticed the spots to become whiter than usual on days when the attacks (*petit mal*) were more frequent. This interesting clinical observation by the "laity" confirms similar observations previously published by me.

These spots ought not miss recognition by the practitioner; they are an objective sign in epilepsy that is readily observable even by the laity, as this communication indicates.

Immunity in Cancer

By EDWARD PERCY ROBINSON, New York City

THE suggestion to immunize patients against cancer would appear at first glance to be the most audacious idea ever advanced. Nevertheless, on closer examination, the possibility of this expression applied to prophylactic therapeusis in malignancy may have justifiable grounds and, if it is permissible in medical practice to reason by analogy, then let us see on what basis we may arrive at a logical deduction regarding immunity from cancer.

In the study of cancer, investigators of this mysterious disease appear to have devoted most of their time to the study of the physical changes of the cell rather than to the chemical changes of the plasma. If we ask what the difference is in the chemical composition of the plasma of a healthy human being and that of one afflicted with cancer, the question remains unanswered.

Since it is the cell in which we are better able to judge the pathological progress of the disease, let us consider some of its properties.

According to Delafield and Prudden, "Different parts of the cell have special functions to perform. Thus, the nucleus presides over the constructive metabolism, or assimilative process of the cell, and furnishes the physical basis upon which the transmission of hereditary characteristics depends. The cytoplasm of the body, on the other hand, is concerned in those phases of metabolism which result in the liberation of energy in movements of various kinds and in the formation of new chemical substances." It is this particular property of the cell, to form new chemical substances, which is so important in the development of cancer.

The "Formative Stimulus"

Let us suppose that we have to deal with a tumor which may be looked upon as an incipient cancer. Ehrlich claims that "A tumor, in order to grow continuously in an animal, requires certain specific substances which permit of its growth, the nature of these substances being unknown; if they are not present, the tumor does not grow; when they are exhausted, the tumor undergoes spontaneous regressions." Some have applied the term "formative stimulus" to these specific substances, for it is logical to assume that, if cells which were previously normal begin to acquire growth, some stimulus must have been generated, and this stimulus could have come from no other source than that of the blood. McFarland, in his "Biology, General and Medical," states that "a trifling modification in the chemical constitution of a vital substance may give rise to a profound alteration in its physiological properties." From this, we may deduce that an individual, who has been living

on foods which are not properly digested and which create end-products difficult of oxidation, will have brought about changes in the blood. It is by these changes that the cell is supplied with material from which it may manufacture new chemical substances.

The Salt and Acid Theory of Cancer Causation

In 1918, I advanced the hypothesis that cancer was caused by an excessive use of salt and by acids created through a too abundant meat diet. To this, some have applied the term "salt and acid theory." Experiences in the past five years have demonstrated the truth of this theory. Patients with unmistakable cancer have been relieved of the disease and restored to health. In verification of this statement, we have the word of hundreds of physicians who give instances of advanced cases of cancer yielding to the influence of medicinal treatment. If it is possible to bring about such gratifying results in advanced cancer, may we not reasonably assume that similar treatment, applied during the precancerous stage, would act as a prophylactic measure and produce immunity to cancer? If this assumption will stand the test of mental digestion, then let us consider the outward signs which may be looked upon as denoting a precancerous stage.

About a year ago, Dr. Frank B. Moore, of Chicago, published, in the *Illinois Medical Journal*, a list of objective symptoms which he regarded as belonging to the precancerous stage. This list, with his comments, follows:

"There has, so far, been considerable speculation about the precancerous stage and some attempts have been made to establish definitely the relationship of certain types of malignancy to certain conditions which have often been found, clinically, to precede them. For instance, the etiological relationship of gastric ulcer to gastric carcinoma. This has been well worked out and the sequence found to occur frequently enough to warrant the assumption that chronic ulcer of the stomach is often the precancerous stage of ultimate carcinoma.

"The precancerous stage is that stage which shows in itself no definite symptoms of malignancy and, yet, which is often found, both clinically and pathologically, to precede true carcinoma. The question, of course, is still open as to whether the condition has not been cancerous from the beginning and is not, therefore, really precancerous at all; but, as there are no findings of malignancy in these early stages and as they are clinically inseparable from benign lesions which do not always become malignant, we have no grounds for assuming that they are merely, in themselves, the beginnings of true malignancy. So long as this is true, the term precancerous seems the only appropriate and justifiable one.

Precancerous Conditions

"As a working basis, then, for this discussion, we may call a condition precancerous when it presents those signs, symptoms and pathological findings, which may indeed lie latent for years or for the entire life-cycle of an individual, but which also, under the stimulus of certain conditions which we do not now recognize but which we assume to be etiological factors, develop into and become true malignant or carcinomatous growths.

"In this sense, we recognize as precancerous, many conditions, some of the most frequent and important of which are:

Skin:—Xeroderma pigmentosum.
Chronic dermatoses from exposure to light, X-rays, etc.
Pigmented nevi or moles.
Lupus vulgaris.
Lupus Erythematosus.
Chronic scaly lip.
Fissures of lip.
Keloids.
Tongue:—Leucoplakia.
Luetic scars.
Wounds from jagged teeth.
Esophagus:—Luetic strictures.
Strictures from injury, caustics and other causes.
Stomach:—Peptic ulcers.
Intestine:—Chronic inflammation and diarrheas.
Rectum:—Fissures.
Hemorrhoids.
Polyps.
Chronic symptomatic diarrheas.
Gall-bladder:—Chronic cholecystitis.
Gall-stones.
Pancreas:—Chronic pancreatitis.
Pancreatic calculi.
Uterus:—Chronic endometritis.
Hyperplasias of various origin.
Lacerations and erosions of cervix.
Hydatid mole.
Breast:—Chronic mastitis.
Chronic eczema of the nipple.

"These conditions, while in themselves benign, are known to be the forerunners, in many cases, of true malignancy. They are definitely not malignant in themselves and, if left to themselves, do not always become so. They are, however, the fertile soil, ripe for development; and, given this soil plus the unknown factor or stimulus which may or may not be the directly exciting cause of carcinoma, they develop, often very rapidly, into typical malignant growths."

In this list, there are but few conditions which might exist without some constitutional symptoms. If a careful history be taken and a thorough examination gone into, it will be found that a large majority of these precancerous manifestations are accompanied by constipation, digestive disturbances, anemia, edema, and symptoms pointing to renal and circulatory disfunction, etc. We, therefore, have, in the precancerous stage, both objective

and subjective symptoms to guide us. Timely recognition, then, of these precancerous symptoms is the key-note to the eradication of cancer. If, now, at this stage we treat a patient and are able to remove all the manifestations of faulty metabolism, we have, by the means employed, restored such a patient to health and made him immune to a possible malignant state. The word immunity means "security against any particular disease." The popular employment of the word, however, is associated with the practice of serology. Nevertheless, there is no valid reason why its application to other branches of medicine should not be permissible.

Experiences in Treatment

Within the past four years, I have had varied experiences in the treatment of cancer subjects. Some have died, while others have recovered and are still alive and enjoying health. A case of cancer of the rectum is recalled in which a diagnosis was made by six physicians and the patient given a few weeks to live. This was two years ago and, as the result of medicinal treatment, the patient is well, able to work and has no evidences of the trouble. In this instance, the treatment must have dissipated the active agent which was present and caused the condition of malignancy. The "formative stimulus," if we may accept the expression, was removed; in other words, oxidized. Logically, then, since security against the disease has been acquired, the patient must be considered immune. As in any disease, the possibility of a recurrence must be borne in mind, since there is hardly any disease in which one attack guarantees absolute protection, and cancer would not be an exception in this respect. A return to the old habit and custom of an excessive meat diet and the unphysiological use of salt will, in all probability, bring about the same condition which existed in the first place; namely, cancer.

This case is but one of a large number. Physicians from every part of the country are treating cancer medicinally and giving thereby a grant of immunity to the patient. Space will not permit reports of other instances in which recovery has been the happy termination of a desperate malignant condition.

Many conceptions of a thing may be had from the angle in which it is viewed. To every human being, the word cancer is welded with that of death. Even to those of the strongest minds, this word strikes at the bottom of the most stolid fortitude. Few there are indeed who will not blanch when told that their condition is cancerous; and it seems the popular thing nowadays to look upon everybody over forty as having entered the cancer age. This seems to me to be a form of propaganda for obvious reasons surgical. However, if we can soften the dread of a disease and remove the natural fear from the mind, do we not at the same time offer a measure of suggestive therapy which in itself is curative? May we then, without overstepping the bounds of propriety, say to a patient that medicinal treatment will grant immunity to cancer, provided treatment is commenced in the early stages and certain precautions are observed? And does it not seem more rational to begin treatment in the early stages of cancer, when immunity is problematical, rather than attempt treatment after malignancy has ravished the patient and depleted all the recuperative forces?

Unfavorable Prognostic Factors

Certainly, any hope of recovery after a cancer subject has become xanthochroous is futile. Destructive reactions in the blood, so complete as to produce changes in the pigmentary layer of the skin, may be safely regarded as an unfailing sign of dissolution. Indeed, the nature of a formative stimulus may some day be revealed through the study of xanthin. This amorphous leukomain is found in most of the body tissues and fluids and is formed by the decomposition of nuclein by acids. Nuclein is the essential chemic constituent of the nuclei of cells; and, among the acids which bring about the decomposition forming xanthin, is phosphoric acid. In this connection, it is important to note that an excessive meat diet produces large amounts of phosphoric acid.

In the last stages of cancer, it is not uncommon to find the patient suffering from profound depression, fatigue, vomiting, with or without diarrhea. As these symptoms are identical with those produced by the physiological action of xanthocreatinin, the presence of this poisonous leukomain cannot be ignored. It would not be correct to infer that the symptoms mentioned are solely indicative of death, for they are frequently observed in patients who have no visible manifestations of cancer. Nevertheless, their presence should be regarded as denoting the influence of lethal leukomains. At this particular stage, treatment instituted with the object of bringing

about oxidation could be regarded as a means toward immunity.

Imperfect oxidation results in the retention of alloxur bodies or xanthin bases; of these, the most important clinically may be urea, uric acid and creatinin. Meyers and Lough, in their investigations of the blood in nephritis, showed that, when 5 mgms. or more per 100 Cc. of creatinin appeared in the blood, all such cases terminated fatally. It would appear then that the end-products of catabolism, if not eliminated or oxidized, become fatal poisons. That these products are difficult of oxidation, is shown by the fact that they are deposited and may be the cause of tubercles. It may be worth mentioning here that a substance known as xanthocystin is found in tubercles of dead bodies. This fact alone may suggest a clue regarding the possible source of a formative stimulus in tumors and may aid in shedding some light on the obscurity which envelops the etiology of many skin affections. According to Mathews, "The constancy of the excretion of creatinin indicates that it is, as Folin suggested, an index of the real catabolism of the vital machinery of the body proper, in distinction from that catabolism which increases the free energy."

Cancer a Constitutional Disease

Although the view regarding cancer as a constitutional disease is gradually gaining converts, it is not generally accepted. There are some who reason backwards and regard cancer as the source of the constitutional disorder, rather than reason that the beginning comes before the end. The surgical removal of cancerous tissue has many followers, based no doubt upon the above belief, and it is paradoxical that, while an exact clinical symptomatology may exist in cancer and in nephritis, the constitutional nature of the former is discountenanced and that of the latter accepted. It may be that the certain fatality following the removal of both kidneys preserves the notion that the existence of nephritis bears some relation to faulty metabolism; and this idea is further strengthened by the clinical investigations regarding the influence of salt on the kidneys. For, on a diet rich in protein, purine, carbohydrate or chloride, there will be a correspondingly high percentage of urea, uric acid, sugar and chlorides in the plasma, and, when these substances are found in a specimen of urine, nephritis is suspected. The activity of the kidneys is not confined to one function, their proper duty is, to separate from the blood the injurious products of metabolism and to prevent the loss of those substances needed in nutrition. Therefore, it is important that the residue from food substance does not overtax their functional capacity. The seasoning of foods with too much salt is probably one of the greatest factors in disorganizing metabolic processes of the body. Richter states that "The tendency to salt retention is seen especially in the overloading tests after a few days, in which a uniform amount of salt is given beforehand." How injurious this retention must be after years of salt eating, is shown by the enormous mortality from Bright's disease.

In regulating the diet of a sick person, one, for example, who might be suffering from nephritis, heart disease, high blood pressure, edema or cancer, it is customary to restrict such foods from the diet as salted meats, fish and cheeses, fats of all kinds and foods which produce large amounts of sulphuric, phosphoric and amino acids, etc. Among the beverages which may be restricted with advantage to the patient, are coffee, cocoa and tea, since their alkaloids, caffeine, theobromine and theophylline are methylpurins, all of which are capable of producing uric acid. If it seems wise to prohibit the ingestion of certain foods when a patient is ill, and if, through this restriction, health again returns, is it not reasonable to infer that the diet bears some relation to the recovery of the patient? Otherwise, why change the diet?

If the mind is favorably receptive to the physicochemical nature of nephritis, why should mental processes be negative when relative conditions are cited regarding cancer? If medicinal treatment is indicated in one instance, why should not similar treatment be proper in analogous conditions? Therefore, the constitutional nature of cancer should cease to be a question of doubt and should be recognized without fear of ridicule. Courage to be governed by one's convictions is not a sin.

Memoirs of the World War

By GUSTAVUS M. BLECH, Chicago, Illinois

[*Concluded from February issue, p. 123*]

CHAPTER X.

L'Avenir

WE have won the greatest war in American history! The greatest military power on earth, apparently strong enough to defy the entire world for years, has been crushed—thanks to American prowess! What need is there for a large regular army? What need for military preparedness? Let any nation dare defy us, we have but to remind them of what we did to the Kaiser's cohorts, to paralyze any military enterprise against us. This will be the cry of pacifists.

In the preceding pages, we have intimated what a tremendous amount of energy and hurried work was required to raise, equip, and train a force sufficiently large to give the enemy the *coup de grace.*

The nature of the narrative has been such as to render a detailed discussion of all phases impossible; but enough has been told to convince the reader that, even after a year's preparatory work, all has not been well with us. Even a tyro must realize that, had not the French and British held the lines until we could get ready, had we been compelled to give battle immediately after mobilization, our little Regular Army and our partly-trained National Guard would have been annihilated in the course of a few weeks. Every country boasts of a class of citizens, consisting of short-haired women fanatics and long-haired he-weaklings, who are opposed to any and all discussions of military preparedness. For this class of maldeveloped beings, we can only feel pity and advise treatment by alienists. But, for the men and women of worth and character who are pacifists by conviction and for the masses who are too absorbed in their individual interests to pay attention to one of the most important problems confronting our country, the time has come to unite on a plan to prevent war, if they really desire permanent peace.

"Who will attack us?" they ask. "Who will attack us?" they asked before the World War, and the answer was: A powerful military machine with the government of which we have done our utmost to maintain friendly diplomatic relations.

Practical Pacifism

And, why not? We were looked upon as physical weaklings, as a nation too engrossed in the accumulation of wealth to develop our military muscles, with the result that the "Lusitania" is today a coffin for many innocent American women and children on the bottom of the ocean instead of a transatlantic liner crossing the ocean in the service of civilization! Indeed, Moltke was right when he exclaimed: *"Si vis pacem para bellum!"* (If you want peace, prepare for war). Had we had a million trained reserve soldiers with a practical system of mobilization to transform them into homogenous military units, there would have been no world war as far as our nation is concerned. Ask our *real and patriotic pacifists;* the officers and men of the army who have fought in the trenches (for, real soldiers know the horrors of war), and they will tell you to a man that America has but one way to insure peace; namely, to prepare for war!

One need but glance at Europe to realize that visions of universal peace must remain—visions. Four years of bloodshed, famine, pestilence and misery almost over the entire European continent have brought exhaustion and peace only to the largest powers. The smaller races and peoples are still fighting for the realization of their weird national programs.

As these lines are being written (Fall, 1921) and now that our volunteer army has been demobilized, our neighbor south of the Rio Grande feels courageous enough to do all in his power to drive us into a state of war. Who knows but that, when this book shall see daylight, our military resources will have to be drawn on again to bring law and order into a country ruled by elements appropriate for such tribes as the Malissori in the Balkans, but not for a large, modern nation?

It is not the author's purpose to formulate a scheme defining what the military program of our country of today and tomorrow shall be like. Even if he were an acknowledged military authority, the recommendations of one man would carry little weight, especially since our highest military leaders are not agreed on details.

Our Available Military Resources

Nevertheless it may prove a fruitful task to discuss a practicable scheme of utilizing our resources. Foremost stands our Regular Army, a model of organization, discipline and

efficiency. What shall it be in size? Shall we have an army of more than half a million, or a smaller force? A theorist would take from his bookshelf a reference book and look up the size of the armies of Germany, France, Austria, Italy, England, and others on a peace footing. But, these figures will prove of little value, for the simple reason that, with the exception of England, most European nations do not depend on their active armies as a first-line defense.

The following figures are taken from an authoritative source:

In 1912, Germany had 600,000 men under arms (active or regular army), 1,800,000 men first reserve and 1,400,000 territorials—a total of 3,800,000.

France, which was supposed to be the nation always dreading an attack by Germany, had, at that time, a regular army of 550,000, a reserve force of 2,200,000, and a territorial force of 2,000,000, a total of 4,750,000, or a little below one million more men than its principal adversary.

Why did France dread Germany? Because the German Army was considered the better trained, the better equipped, the better organized, the better led, and, last but not least, because Germany was known to have additional human resources which, if properly trained, would increase its armed force to a total of approximately six millions. We can see, therefore, that, in our country, even a Regular Army of a million would not suffice for a war against a strong military nation, and that our principal strength must consist of reserves.

The Regular Army

We need a Regular Army for three principal purposes: (1) To protect the nation against internal disorders; (2) as a teaching body for an adequate reserve force; (3) as a force to protect the country against invasion and to garrison our oversea possessions.

Let us briefly discuss these three purposes. As regards the protection against internal disorders, we have gone through as much unrest just now as we shall see for some time to come. There are two classes of people who dream of overthrowing our form of government; first, men who do not know that our constitution is the most liberal that has ever been framed; and, secondly, an irresponsible lot of perverts who delight in calling themselves by a Greek term—*anarchists*—which actually means, no government at all.

For the former, we need a few battalions wherever the disturbers are known to conglomerate. For the latter, we need no army at all. Police restraint, a school for feebleminded, or a hospital for the insane would appear the appropriate remedy.

To instruct our future reserves, we need a large body of teachers, but comparatively few troops. The idea of utilizing the army as skeleton cadres, to be augmented by levies, is fallacious. If the best captain in the world had twenty of the best regular-army soldiers as a skeleton infantry company, and if his company were increased to, say, one hundred men with eighty raw recruits, his company would be very poor until the eighty new men attained the degree of training possessed by the twenty. There has been a popular notion that the twenty trained soldiers could "pull the others through." This is stupidity with a vengeance. Soldiers are not mere males dressed in uniform, they are men who must know their "trade" just as artisans or craftsmen must know theirs. And, one might as well train an entirely new company. The results will be practically the same, all depending on the ability of the teacher and his assistants.

As regards the garrisoning of our oversea possessions and resistance to an invasion, 250,000 officers and men should prove adequate, at least for a few weeks, until we could mobilize our resources.

It would appear, therefore, that an army of about the following size would be sufficient:

10 Infantry Divisions of 20,000 men each	200,000
3 Cavalry Divisions, of 10,000 men each	30,000
Special troops, e. g., aviation, medical department, ordnance and quartermaster corps, etc.	20,000
Total	250,000

These estimates are not in accord with the Tables of Organization for the World War, but it is believed that the units then prescribed were rather unwieldy, and that an infantry division properly balanced, with infantry, artillery, signal corps, engineers and sanitary troops should not exceed 20,000 officers and men.

Reserve Forces. The National Guard

We next come to our reserve forces. This problem was never worked out satisfactorily. During the World War, we had no reserve in the strict sense of the term; one might truthfully say that we raised an entire new national army.

The only military asset available before the

war, outside of the Regular Army (if we ignore the Navy and the Marines) was the National Guard. The National Guard was numerically a little stronger than the Regular Army, but neither organized, drilled, instructed nor equipped as well. It was a night-school, a "sundown" army pure and simple, and professional perfection was not to be expected. Besides, there was an officer, or teacher, body that was partly good, partly indifferent, and partly bad.

It must be admitted, however, that a little training proved better than none at all, so that, with an added intensive course of preparation, the results in the war against Spain and on the Mexican border are not to be underrated.

As for the World War, no just conclusions can be drawn for either the Regular Army, the National Guard or the National Army, since none of the three forces consisted of trained troops exclusively. There seems to be something akin to antagonism between the Regulars and the National Guard. There is no question that the Regulars would prefer an Army reserve to the National Guard, but the Guard does not deserve to be abolished. It has traditions as a military body and demands autonomy.

To an outsider who is familiar with the circumstances, the whole problem appears as a very simple one. As a matter of fact, the National Guard acknowledges the professional worth of the Regular Army and appreciates that there are many Regular-Army officers who have a kindly interest in and even affection for the Guard. The sentiment of antagonism is based on individual misunderstandings and petty rivalries, which should have no place among soldiers representing one interest—that of national security. The sooner the leaders of the factions come together, take off their coats and go to work, the better for all concerned.

There can be no question about one thing: The Army must have professional supervision over the Guard to insure uniform instruction, equipment and discipline. Other details are of minor importance and can be worked out to satisfy both organizations.

The National Guard should consist of:

16 Infantry Divisions of 20,000 men each	320,000
1 Cavalry Division (Texas)	10,000
1 Cavalry Division (New Mexico-Arizona)	10,000
Total	340,000

This would give us a total mobile force of 520,000 infantry and 40,000 cavalry. Coast artillery has not been included in the estimate. Such a force would not be adequate, however, to cope with even the preliminary military problems of a war with a first-class military power, even if it be assumed that we are fortunate enough to have only one antagonist.

Universal Military Training

Our military policy must contain a definite program of universal military training, and only by such a policy shall we be able to maintain the Regular Army and National Guard at the prescribed strength, no matter whether the authorities decide on larger or smaller forces than those tabulated here.

Past experience teaches that, if we again fall back on voluntary enlistment as a means of recruiting for both organizations, neither the alluring posters of "traveling universities in khaki" nor the advertisements of National-Guard regiments, which promise prospective members the advantage of high-priced clubs, will bring the required number of recruits.

There always have been and always will be a number of young men who like military life in spite of its rigidity, and these will enlist in the Army where they have, in addition to the gratification of their martial tastes, a decent living, or they will join the Guard so as to be able to develop themselves commercially or technically without prolonged interruption; but this number is limited, especially after a war.

The time for all such problems is past. The nation is no longer at a kindergarten age. It has been forced to assume an important place in the council of nations. We have never been particularly liked by other nations, and we are not making many friends now. We have enough wealth to rouse the greedy to fury, and our ideals are a thorn in the flesh of the statesmen who prefer the Machiavellian mask of continental diplomacy to our ways of frankness and sincerity.

How soon the clouds will gather and thunder and lightning concentrate on us, as on an international lightning rod, no one knows! But, it is sure to come, perhaps sooner than most of us dare believe, and it can be averted only by drastic measures. We need a democratic national army; and that, at once. Democratic in the sense that none but the aged and infirm and those exempt by law, on account of vocation, should be excused from military duty. We want none of the privileges

for our armed forces so notorious with the nobility of former empires, except one—the recognition, by the nation, of the fact that *the youth wearing the military uniform is performing a patriotic duty.*

The new army also must be democratic in that it shall be national in character. The scion of the millionaire should be the bunkie of the pauper's son; the college boy the tentmate of the hod-carrier; the poet the comrade of the grocery clerk.

It is immaterial what we label this duty, whether we call it obligatory military training or compulsory military service. Under a system of universal duty, one implies the other.

And, what valid objection can be made? All citizens, except those excused by law, are subject to duty as jurors in our courts. It is a compulsory service pure and simple, often one irksome to the man who thinks more of his pocketbook than of his duty as a citizen. But, let any class of business men object to the jury system, and they would soon feel the just wrath of an outraged populace. And, yet, jury duty is compulsory. Why object to compulsory military service?

Objectors will reply that there is something unnatural, something barbaric, something uncivilized about the whole military business. But, there are others (and their name is legion) who, too, have a right to be heard.

Military Schools

We have a large number of private military schools and academies to which, in preference to the public high schools, our well-to-do citizens send their sons to obtain an education. Let us ask these level-headed business men, the fathers of the pupils, why they have sent their offspring to schools run on a strictly military basis, and what will they answer?

To prepare their offspring for a military career? Certainly not. To train them for war? Most assuredly not, they never had war in mind. It has been demonstrated that the military training at these schools develops character and cultivates self-restraint and self-reliance, qualities which enable students to follow their civil pursuits successfully.

We should have an American army which would give to the young men similar advantages to those that the military academies offer the sons of the well-to-do. This will provide for the military training of the young men whose business affairs will allow them to spare six months for intensive instruction. Those who feel unable to devote so long a period will find the National Guard an organization where they can obtain instruction on one or two evenings a week, with a field service in camp during the vacation period.

There remains the problem of recruiting for the Regular Army. This should present little difficulty if a scheme be adopted to free those who complete an active enlistment period from periodic drills during the prescribed years of service in the reserve, and to open to them the possibility of acquiring commissions as regular and reserve officers by competitive examination.

The Officers' Problem

With the adoption of universal military training, we have another serious problem to meet; namely, to supply a sufficient number of suitable officers. For the present, no doubt, there will be a sufficient force; but, in the near future, the problem will become real. Not all our officers have demonstrated their efficiency. Many who had served for years in the Guard were eliminated soon after mobilization. Many National-Army officers, graduates of the officers' training camps, were either asked to resign or sent to Blois. Lest it be suspected that the Commanding Officers were arbitrary or prejudiced, it must be added that a number of officers of the regular establishment were sent back from the front for reclassification.

In previous years, National-Guard officers were elected by their enlisted men, with the result that, often, the man with means or influence won over abler comrades. All this has been done away with. The average American soldier despises a bully, he has contempt for a man who cringes before superiors, but loves and admires the strict disciplinarian who foresees ability and has the interests of his men at heart. He cares little whether a man has the means of patronizing grand opera or has to earn his livelihood by the sweat of his brow, so long as he is the right kind of a man to direct, to teach, to command and lead. Such an officer will be successful—all others will fail. Unfortunately, not all men in officers' uniforms possess the requisite qualities, and now is the time to reorganize the entire officers' corps.

The Medical Officers

A word about the appointment of medical officers. It has been the custom to give regularly-licensed physicians commissions as medical officers and to render assignments to regiments, ambulance companies, and hospital companies—for duty without preparation, except possibly to explain to them the insignia on the uniform and the salute.

But, medical officers have strictly military

duties in addition to the care of the sick and wounded, and they must be thoroughly familiar with many military subjects, practically the same as line and other technical officers, to be able intelligently to instruct their enlisted personnel.

In the Army, newly-appointed medical officers are sent for nine months to the Army Medical School as students, where they are given postgraduate professional instruction, and are also grounded in their new technical duties, such as drill, camp sanitation, map reading and map making, field service regulations, sanitary tactics, military law, administration, etc. Some such plan of instruction should be adopted for Reserve and National Guard medical officers.

To summarize the entire question, the future military program of the United States should be:

1.—Organization of an adequate Regular Army consisting of staff corps, infantry and cavalry divisions, technical troops and coast artillery.

2.—Organization of a mobile National Guard.

3.—Organization of mobile divisions, Reserve, according to population.

4.—All able-bodied citizens and declarants between the ages of eighteen and thirty-five to be subject to universal military training in time of peace. All above thirty-five and younger than forty-five to be organized for home service, in time of war.

5.—Officers to be between twenty-five and sixty-four years of age, citizens of the United States, selected from graduates of recognized military schools, graduates of army garrison schools, or enlisted men of the National Guard or National Army after completion of an enlistment period, and after competitive examination.

6.—Technical officers (engineers, quartermasters, judge-advocates, ordnance officers, medical officers, veterinarians, dental surgeons, chaplains, etc.), to be chosen from men qualified in similar civil professions after a course of military training.

It is not expected that universal military training can transmute the entire nation into one of Spartan sturdiness, but the men it does reach will not have to fear the law of the survival of the fittest, as has been so unquestionably demonstrated by the graduate of the intensive training schools of the World War.

A few years after the inauguration of universal military training, we shall have fewer sanatoria for tuberculosis and fewer penal institutions. We shall be able to reduce the number of criminal courts.

The greatest economic saving, however, which will affect every tax-paying citizen, will come from the fact that the enormous expenditures incident to modern warfare will be rendered unnecessary. There will be no war, because even the nation with a strong army will not dare to attack us, knowing that a mere click of a telegraph instrument in the War Department will cause "millions to spring to arms overnight."

[The End.]

Treatment of the Anemias

With Protein-Substance Introduced Parenterally

By W. BUSCH and EDWARD AHLSWEDE, Hamburg, Germany

SINCE the first attempts to influence chronic affections with protein substances that are introduced parenterally, several investigators have made the attempt to modify various forms of anemia by means of "protoplasma activation" of the blood-making organs. Among these, especially E. F. Mueller[1] deserves credit for having demonstrated that, indeed, a distinct increase of hemoglobin and of the leucocytes may be observed after parenteral introduction of protein substances. The favorable effect of this medication is shown also in the increase of erythrocytes, which is frequently enormous. The same effect is produced in most acute infectious diseases as soon as the severe toxin production lessens and the body cells are sufficiently activated. Commonly, this condition is arrived at at the height of the exanthema.

According to the investigations of Weichardt[2] of Mueller[1], this general stimulation of cells seems to influence those organs most markedly the function of which has been injured most severely. Among these organs, the bone marrow is especially important. Mueller was able to show that, even after one large-sized injection of milk proteins, an

[1]E. F. Mueller. Die myeloische Wirkung der Milchinjektion. *Med. Klin.*, 1918. Nr. 18.

[2]E. F. Mueller. Beitrag zur Klinik der Infektions krankheiten. *Med. Klin.*, 1919. Heft. 2.

enormous increase in the number of red blood cells is established (after a dose of 10 Cc. milk protein, for instance, an increase of one million red blood cells). During the following weeks, a distinct increase in the hemoglobin content is observed.

Finsen Light and Quartz Lamp

Since the fundamental researches of Finsen and his school and independently of the studies of the effect of protein substances, the possibility to raise the number of white and red blood cells by the raying of large surfaces of the body has been known. While Finsen employed carbon arc lights and with these secured his far-famed successes in treating lupus and other affections, the quartz lamp has more recently all but pushed aside the arc light. Owing to a somewhat one-sided argument, it was believed that only the ultraviolet rays were the effective constituents of the rays and, therefore, the socalled artificial alpine sun was constructed. However, it was soon found that the old Finsen lamps possessed great advantages and that the effect of the other rays is not to be underestimated.

From the beginning, the erythema produced by the artificial alpine sun attracts attention. This erythema is not red but shows a somewhat slate-colored tint. After raying with the Finsen light, the erythema has an inflammatory red appearance. The pigmentation, also, which develops after raying treatment, is different in the two methods. After treatment with the Finsen arc light, the pigment is a vigorous red-brown; that due to quartz lamp is grayish brown. In people with numerous pigment cells, the pigmentation is important for the estimation of the therapeutic effect.

The original arc-light rayings of Finsen had the great disadvantage of producing much heat, because of which it was necessary to take complicated precautions. This difficulty is overcome very happily by the "Mebolith" lamps made by the Giessen Lichttherapiegesellschaft.*)

In these lamps, the carbons are impregnated with certain metallic salts, so that a mixture of rayings is produced containing a sufficiency of short- and long-waved rays to bring about a vigorous erythema of the skin.

While the cutaneous inflammations induced by quartz lamp affect mainly the superficial layers of the skin, those due to arc light invade the depth of the integument more deeply. At the same time, the effect of the rays can be regulated more closely and unduly intensive irritation be avoided.

The principal effect of this erythema is similar to that of protein-substance injection. Here, also, it is a question of protoplasma activation (Weichardt) and of intensive stimulation of cellular activity. Even now, it may be assumed with considerable certainty that the substances discharged into the blood are those ferments which are daily secreted in the ordinary metabolic processes[3]. According to the fundamental law of Arndt, chronic processes require but small quantities of the effective therapeutic material, while in acute conditions larger doses are needed at once. In chronic affections, however, treatment must be continued for a longer time. The rayings with the Mebolith lamp act in accordance with this law, insofar as they can be regulated so delicately that the effect becomes very gentle.

Deep Stimulation

With these two methods, it is possible to activate at will deep-lying organs which otherwise can be influenced only by Roentgen rays.

In recognized secondary anemia, it is well to administer rayings to as large portions of the skin as possible. The lamps that are most suitable are carbon-pencil arc lamps, in which the carbon pencils are impregnated with metal. As soon as a sufficiently vigorous erythema has been produced, the injection of protein substances is undertaken. For this, the milk albumin preparations are most suitable. It is well to commence with careful doses, in order to determine the reactivity of the patient. About ½ Cc. will suffice for the first dose. If the reaction is slight, one can safely pass on to higher amounts. The treatment will be arranged somewhat as follows:

First to third days, raying with carbon metal lamp. At first, five-minutes' duration, at 20 Cm. (8 inches) distance; on the fourth day, injection of milk albumin, ½ Cc. (8 minims) which, of course, must be free from toxins and bacteria. If the effect is sufficiently marked (which must be ascertained by examination of the blood picture), the injection may be repeated after periods of three or four days. The light-treatments are best administered every second day only, commencing with the third. At the second injection, it is well to administer 2 Cc. of the milk albumin. These injections are repeated every third or fourth day and each time the

*Corresponding serviceable lamps are available in this country, being produced by American manufacturers.—Ed.

[3]Weichardt und Schrader. Ueber unspezifische Leistungssteigerung, 1919. *Munch. Med. Woch.* No. 11.

blood picture is to be examined. A dose of 5 Cc. should not be exceeded.

Mueller succeeded in producing a sufficiently marked permanent effect by a single injection of 10 Cc. Still, such heroic doses are not always quite unobjectionable. In accordance with Arndt's law, repeated injections of smaller amounts are followed by the same lasting effects, and this without danger.

As to Anaphylaxis

In general, it is rarely necessary to go beyond six injections. In these frequent injections of the same milk albumin preparation, one need have no serious fear of symptoms of anaphylaxis.

True, the nature of anaphylaxis phenomena has not yet been sufficiently elucidated. Aman[4] assumes that it is the content in the foreign serum that produces the symptoms of acute intoxication. On the basis of this idea, he has constructed a special preparation of albumin with which he claims to have caused no anaphylactic symptoms. Mueller[2] considers the cause of the anaphylactic phenomena to be threefold; namely, (1) the bodies of killed bacteria and of endotoxins contained in them; (2) the ektotoxins formed by the bacteria previous to sterilization; (3) the disintegration products of the milk albumin that had already been affected by bacteria.

Thus, Mueller assumes that anaphylaxis constitutes an intoxication with organic poisons, and this view is most generally accepted. Indeed, it has been found that the injection of milk preparations which had been made with most careful attention to freedom from germs or toxins can not give rise to any anaphylactic phenomena whatever.

However, in solutions of pure casein, this is by no means always so. At least in the case of "caseosan," which was introduced by Lindig, occasional by-effects have been observed, so that a careful dosage is necessary in employing pure casein preparations.

In mild anemias, we administer only pure milk-albumin solution. It is only when a repeated and energetic effect is indicated that, instead of a milk-albumin injection, we administer not more than 2 Cc. of a casein preparation.

That even the explanation of Mueller does not exhaust the whole problem of anaphylaxis, is shown by the fact that, after repeated casein injections, very stormy reactions may make their appearance, presenting the clinical picture of ptomaine intoxication. It must be assumed that other factors are concerned which have not yet been elucidated. Very probably, these must be searched for in the field of chemico-physical considerations.

Parenteral Administration

In the preceding, we have referred only to the injection of milk proteins. Two methods are available that are similar in their effects. First, the percutaneous; second, the intracutaneous method of parenteral protein-body therapy. The first method is employed at present mainly by Petruschky[5] and by Funck[6]. Petruschky uses a glycerinated tubercle-bacillus emulsion and thus employs the bacterial bodies themselves, as well as the endotoxins contained in them, for the purpose of influencing tuberculous foci. His compound tuberculin liniments are worked into the skin by friction without any preliminary treatment. Petruschky has shown, on various occasions, that the bacterial bodies introduced percutaneously in this manner are indeed absorbed by the skin and are slowly disintegrated.

Funck's method is different. He uses a salve in which albuminous substances are rubbed up that are in colloidal solution. In order to render the skin more sensitive and more receptive, he produces a hyperemia before the application. We ourselves administer percutaneous remedies both by means of the protein-substance salve and a solution for injection.

The intracutaneous protein-substance therapy represents a middle way between the two methods described. It is more energetic than the percutaneous application and milder than the injection. It is based upon the prototype of Pondorff's tuberculin vaccination. Although, in the case of Pondorff's vaccination, specific effects can not be quite denied, their main effect, nevertheless, is an unspecific protoplasm activation. On the basis of this idea, we have elaborated a vaccine which permits the proteins alone to become active.

[4]Aman, Zur Proteinkoerpertherapie. Mitteil. d. wissensch. Abtlg. d. Fa. Deigmayr, Munchen.

[5]Petruschky. *Med. Klin.*, 1919. No. 35.
[6]Funck. *Med. Klin.*, 1921.

Some Lessons Learned from School Inspection and the World War

A Study in Preventive Medicine

By J. M. FRENCH, Milford, Mass.

EDITORIAL COMMENT.—The school physician has been opposed strenuously by many people, more especially by those who prefer to resort to drugless methods of healing. These people are afraid that physical examinations made by the school physician are invariably followed by therapeutic measures that are forced upon the children. However, that may be (and there is a great need of better understanding and appreciation of the work of the school physicians), it is quite undoubted that these officers have accomplished a great amount of good. Doctor French's discussion of his experiences constitutes an important corollary to the results of selective-service examinations to which all young men were subjected, a few years ago. In a way, it affords an explanation of the sad and alarming state of affairs that was found to exist. If the American young manhood (and we can safely add, young womanhood) shows physical defects that might have been prevented, the most simple lesson is, that these faults should be prevented even before their first signs appear; certainly not later. The earliest recognition is evidently possible during school life. It is here that the work of the school physician can tell. The school physician, be it understood (and let that be elucidated clearly to the parents), does not treat school children; he examines them for the purpose of discovering any existing anomalies and faults of development. When these have been discovered and have been communicated to the parents, it is clearly their duty to take the necessary steps. They may take the children to their family doctor, or they may ask the school doctor or the school nurse to refer them to the dispensary. At any rate, the indications for treatment discovered on examination should be acted upon promptly. In this manner only may we hope to have the coming generation of young people grow up in a better physical condition.

So far as I have been able to learn, the objects for which the medical inspection of schools was undertaken may be included under three heads: first, to limit the spread and, so far as possible, prevent the occurrence of the common contagious diseases, both in school and the community at large; second, to prevent, remove, and promote recovery from, a large class of physical defects which are so closely connected with the school age that they have come to be popularly known as school defects which tend to diminish the mental capacity, lessen the attainments of the pupils, and retard their progress in school, thereby seriously interfering with their obtaining a proper education; third, to determine the existence of any other serions defects, disorders, or diseases or the formation of improper habits, which would interfere with their physical or mental development, and, by calling attention to these deficiencies, lead to the proper care and treatment being given to the children by their parents and the community at large.

Although a most important element in the plan as finally developed, it is probable that this last object occupied but a small place in the original idea of school inspection. Even at the present time, except in the larger cities, it is probably the part which receives the least attention.

The state of Massachusetts established compulsory school inspection in 1907, and I have served as one of the two school physicians in my home town every year since that time, the two working in collaboration and having as one important part of the work the yearly examination of from 2000 to 2500 school children.

Plan of Work

Early in our work, we saw the need of establishing some general principles for our guidance, based on our personal experience. We therefore undertook to keep a complete individual record of the physical and mental characteristics of each pupil, for the purpose of determining the relations between the two elements; and this record we continued to keep for a sufficient number of years to enable us to reach certain definite conclusions.

As our field was a town having in its public schools from 2000 to 2500 school children only, and as we devoted but a small part of our time to the schools, our working plans were necessarily much less extensive and ambitious than

those which were carried out in Boston and other large cities. Only the general outlines having been provided for in the law, we were permitted considerable freedom to develop the specific details according to our own judgment.

The physical defects were arranged in five classes, according to their relation, (1) to the eye and vision; (2) to the ear and hearing; (3) to the mouth and teeth; (4) to miscellaneous conditions including all other local and general disturbances of health.

The educational problems for the solution of which these conditions were to be studied in relation to each pupil were the following:

1.—To what extent is the mental capacity of the pupils lessened, their progress in school retarded, and their persistency in school prevented by the physical defects from which they suffer, and particularly by certain classes of defects which are largely removable or remediable?

2.—To what extent can the mental capacity of these children be improved, their retarded progress overcome or prevented, and their persistency in school increased, by remedying these conditions?

3.—Will it not be financially cheaper and better public policy for the people of any town or municipality to pay out the small amount which would be necessary, in order to remove these defects in the case of those children whose parents are not able to pay for the same, than it will be, on the one hand, to furnish them with the additional schooling which will be required to bring them up as nearly as possible to the normal standard, or, on the other hand, to suffer them to go through life as defectives, both physically and mentally, unable to bear their fair share of the burdens of life, and with a greatly increased liability of becoming public charges?

The Physical Problem

The working schedule divided the pupils into three classes. This was done by first separating them into normals and defectives. Those in whom a slight and cursory examination (technically known as an inspection) failed to reveal any noticeable defects, were classed as normals, and these constituted the first class. Of course, if the examination had been sufficiently critical, there would have been practically no normals. But, this was not in accordance with the plan and would not have been either practicable or desirable. Broadly speaking, we found about ten percent of normals in the schools as a whole.

The remaining ninety percent were classed as defectives, and these again were divided into two classes. If the defects were slight and were not considered likely to retard the progress of the pupils, they were simply recorded for purposes of observation and for comparison with the conditions that might be found in future years. Sometimes the next year would find them no longer noticeable, showing that they were merely temporary. Again, and more often, they would have become more marked.

If, on the other hand, the defects were of so serious a nature or degree as to make it probable that they would interfere with the progress of the pupils in scholarship, then, as required by law, notices were made out and sent to their parents or guardians, informing them of the conditions noted, and requesting them to take the necessary measures for their relief, repair, or cure. At this point, the responsibility of the state is considered to end, except in cases of contagious diseases or other conditions in which the safety of other pupils is endangered. Much can be done, however, with the aid of the school nurse who follows the pupils to their homes and talks with the parents in such a way as to convince them in a large proportion of cases, and thus greatly increases the beneficial results of school inspection. Also, much may be accomplished by the physician and the teachers, through constant repetition of the importance of the measures advised. The results have shown a gradual improvement in this line with the passing of years, demonstrating a decided progress, both in the greater attention which is paid to the correction of defects, and also, as the result thereof, the improvement in health and vigor, coupled with more satisfactory progress in school. A child whose throat and nasal passages are obstructed by enlarged or otherwise diseased tonsils, or by adenoid growths which prevent his breathing properly, cannot be either physically healthy or mentally acute. Nor can one whose mouth contains malformed, decaying and irregular teeth, mis-shapen jaws and other abnormal conditions often seen in the mouths of school children, expect to escape headaches, toothache, earache, general infection of the whole system, and a lowering of vigor and the vital resistance. The removal of these conditions does greatly improve both, their physical and mental condition. The pupils go through the grades more quickly, and more of them continue the course through the high school. Year after year, the evidence to this end accumulates, and parents and children become more amenable to the efforts of the doctor, nurse, dentist, and surgeon, and pay more at-

tention to the rules of personal hygiene. I do not mean to say that the progress in this direction is so marked or startling as to lead to the expectation that it will not be necessary to continue year after year the same unending round of effort, but only that it is sufficient to encourage the continuation of these efforts.

The proportion of pupils having only slight defects, as compared with those having serious ones, varies so greatly in the different grades, in different schools, and even in different years, that it is not worth while to attempt to say more than that the number of the slightly defective is usually somewhat greater than that of the seriously defective.

As to the Mental Problem

The next step was, to take up the mental side of the problem, and of this we have necessarily spoken somewhat in connection with the physical. The record was made up from three different lines of investigation which, however, were closely related. The first related to what was usually spoken of as the pupil's mental capacity, although this really required a consideration of the other two elements in order to make possible a correct judgment. We asked the teachers to furnish us with a classified list of their pupils, arranged in three groups; namely, bright, average, and dull. It must be confessed that this test was very unreliable and constituted as much a test of the teachers as of the pupils. But it helped, and we used it. The second item related to the pupil's progress in school, which normally should include one grade each year. But a considerable proportion were repeaters, spending two or more years on a grade. On the other hand, a few were able to take more than one grade in a year, although this was not encouraged or often allowed. The third method had to do with the pupil's persistency in school, or the number of grades out of the twelve in the course which he passed through. Many dropped out at the end of the eighth or last grammar grades. Of those who entered the high school, only a varying proportion completed the course and graduated. However, this was required, in order that the pupil might be marked normal in persistency. If he also completed the course in twelve years, he was likewise normal in progress.

The mental problem, then, consisted in determining the relation of the physical condition to the mental capacity. Three years of careful study of from 2000 to 2500 school children resulted in establishing the following principles:

1.—The normals excel the defectives in mental capacity, in progress in school, and in persistency in school attendance.

2.—Those having only slight defects rank below the normals, but excel those having serious defects, in all these points.

3.—Those having serious defects rank lowest in the scale in all the points considered.

4.—While these conclusions hold true (on the average) for the whole, they are very far from being true in every individual case, or even in every school. Individual instances occur in which the exact reverse is true; but, broadly speaking, they are strongly and unmistakably true.

Evaluating the Results

These lessons were learned through the routine of school inspection; but it is probable that none, even of those who helped to develop them, realized their full significance. Speaking for myself, it was not until years after having developed these principles in my school work, when I was called on to assist in the examination of the drafted men in the World War to test their fitness for military service, that a broader idea of their meaning dawned upon me, and I began to see why it was that so many men were rejected who were supposed to be of at least the average degree of vigor and physical development. Indeed, the World War brought to light many things hitherto unsuspected in relation to the physique and mentality of our young men. It was a great shock to the country at large to learn, as a result of these examinations, that a very large proportion—not less than one third—of our supposedly able-bodied and mentally efficient young men, were unfit for full military service, being rendered so by physical defects or mental deficiency.

Relation to Fitness for Military Service

When these things were checked up by the school physician, he saw that the conditions underlying the failure of the men to measure up to the full capacity required were the same as, or at least very similar to, those which led to the failure of the children in school to attain the proper standard of scholarship; that many of the defective conditions found in the drafted men and the school children were the same; that they were very largely not inherited but acquired; that they began to show themselves in early childhood, brought about by improper habits of living—and, most of all to the point, that a large proportion of them were capable of being remedied, either wholly or in part, by proper medical, surgical and dental treatment, supplemented by intensive training in individual hygiene.

For, we soon saw that the government, real-

izing the importance of the issue, was able by means of repair work, largely done by surgeons and dentists, to make over a considerable proportion of these defectives who were at first rejected, to such an extent that they were later accepted, either for full srvice or, more frequently, for work in certain limited but still necessary fields of war work, in which it was found that they could do good service. And we saw that the conditions, which at first caused their rejection and later were remedied to such an extent as to allow their acceptance, were of the same general nature as those with which the school physician was familiar in his school work. Decayed, irregular, and otherwise defective teeth, and the lack of a sufficient number of teeth to enable the soldier to meet the conditions of army life as to feeding, were the causes of many rejections in the draft examinations, just as some of these conditions were the causes of defective education among school children; and in both cases the dentist was able to remedy the defects to a great extent, thus restoring the defective to a comparatively normal condition, and enabling the rejected applicant to be accepted. Enlarged tonsils, adenoids and other obstructions of the breathing apparatus, and many other of the common conditions came under the same general rule. Some of these, however, like flatfoot and hernia, were disqualifying for army life to a much greater extent than for school work, unless athletics be regarded as an essential part of school work.

School inspection, therefore, deals with the same conditions as those which were found in examining the drafted men; but, in case of the soldiers, the government possesses the important advantage over the school authorities, in case of the school children, of being able to enforce its decrees, and carry out its recommendations to the limit.

Prophylaxis of Defectives

One lesson to be learned is, that practically the great majority of the defects found in the drafted men could have been avoided or prevented by the proper training and right living of the subject in early childhood. A second lesson is, that, even at the stage when they are brought to light in both cases, most of them are susceptible to remedial treatment sufficient to greatly improve and sometimes wholly relieve the individual, whether pupil or soldier. A third is that, if school work had been begun sufficiently early and carried out to its legitimate end, the results would have been such that only a much smaller proportion of the drafted men would have been rejected.

Surgeon General Merritt W. Ireland, discussing the physical defects found in the selective draft men during the World War, (*Jour. A. M. A.*, Nov. 4, 1922), after specifying some of the principal ones, such as flatfoot, venereal disease, hernia, errors of refraction, organic heart disease, underweight, tuberculosis, hypertrophied tonsils, defective teeth, and mental deficiencies, concludes with these words:

"It is not necessary for me to say that a great many of the defects mentioned are easily corrected. The fact that they are not corrected diminishes the man's economic value, and in a very material way lessens his happiness in life. Nor is it necessary to point out the measures which should be taken for their correction. Suffice it to say that the physical examination of our children in public schools, and their supervision by health officers while in school; civilian training camps where the young undergo careful physical survey; the encouragement in life-extension work, which includes the periodic examination of all people after they have reached the age of forty; and the general education of the public with reference to the venereal diseases stand among the most important measures."

The medicine of the future should be, and I believe will be, preventive medicine. All right-minded persons desire to make the most and the best of their lives that is in their power.

Frequent and continued periodic examinations, from the cradle to the grave, are essential to the attainment of the highest degree of the physical system. And the lessons learned must be heeded, the unfavorable conditions found removed, and the laws of hygiene followed out.

When these things are done, we may expect to see a great improvement in the health, efficiency, and longevity of the race.

National Maternity Protection

A Timely Review

By E. H. PIRKNER, Brooklyn, New York

WHEN we seek an answer to the question "Is Maternity Protection in the United States necessary?" in face of the facts that each year more than 20,000 women lay down their lives in childbirth and that more than 100,000 infants die before they are one month old, we must be astonished that such mercenary motives as the fear of increased taxation can be obstructive to carrying indispensable education to the very doors of the people, because nothing but education can solve this national problem. Mothers simply do not know that prenatal care is necessary and, unfortunately, representatives of the people seem not to know—to judge from the profound ignorance which has been evidenced in some legislatures, in the debates on federal maternity aid.

Because an expense of money is involved, shall we abandon our efforts, in recent years so successful, of educating the nation in sexual hygiene and permit social diseases again their triumphant course, now halted, of national devastation?

From Chicago, I have recently received the report that a delegate to the Illinois Constitutional Convention, in an address before the fourth annual convention of the American Liberty League, October 31st, 1922, spoke against the federal maternity aid proposition. He pointed out that the Nebraska Legislature had adopted resolutions calling upon senators and congressmen to vote for no new creations of federal aid. "Massachusetts," he said, "and New York have done the same, rejecting the fiscal allotments under the new Sheppard-Towner maternity law. Massachusetts has instructed her Attorney-General [1] to bring action in the federal courts attacking the constitutionality of this law." Mr. S., the delegate afore-mentioned, declared that this bill wished to provide "free public care in every maternity case regardless of the financial ability of the beneficiary." Surely, a distortion of the truth. It was rejected by the legislature which "declined to establish the proposition that parenthood may be lightly assumed; that the child were properly the ward of the State; that the family were no longer the unit of our civil and social life. It is unthinkable that the General Assembly of Illinois will permit Illinois to be bribed by Washington money to establish a principle which our State has rejected as unsound and detrimental to our ideals of independent American citizenship." These vituperative remarks will hardly be taken seriously by any friend of the people familiar with true facts, but they are a warning that, in places of political influence, most astounding ignorance reigns supreme and demands urgent and earnest correction.

The Educational Character of the Maternity Law, and the Private Physician

Prospective mothers or their relatives do not, as a rule, spend money early in pregnancy for services of a physician which they do not even know to be necessary, and do not apply to a doctor unless actual suffering compels them. Thus, by giving the people what they would not pay for anyway, no danger arises of pauperizing those able to pay. Advice not being offered to them, they do not know that much annoyance from the pregnant state can be warded off in its beginning and later suffering prevented.

For the busy physician and the beginner, there is a convenience in the method in use in New York, since about 1911, of placing nurses salaried by the Health Department, in charge of pregnant women, a method which secures the best financial and ideal results for the physician.

Those nurses also cooperate just as faithfully with midwives—where the case is theirs.

The "Henry-Street" nurses, known all over the world reached by American civilization, skillfully administer aid (prenatal and postnatal) to mother and infant at one dollar per visit.

Incidentally, the registered midwife is permitted to make urine examinations, at least for albumin, and has every chance to render the same service as the trained nurses. If she is ever importuned in an improper way by relatives of a patient, she is in the most favorable position of helping the law of compulsory notification of pregnancy to become effective, as prenatal work should pay her well.

As all education is a gradual process, it is best to make it a public concern from which not only the individual but, in the course of years, also the state profits. The interest of able physicians does not suffer. To them, the women will apply in time, the same as they apply to private schools for special instruction, and their work will be more pleasant through the intelligent cooperation of the women; therefore, it will be more successful.

Without federal control and unless maternity and infancy protection becomes national, there

is little or no opportunity to convey education systematically where it is most needed; namely, to the ignorant masses. Obstructive policy can be explained only by lack of knowledge or understanding.

The Sheppard-Towner Act, the Duell Bill and the Several States

It is to be regretted that New York is one of the few states which has, so far, failed to make the provisions of the federal S.-T. maternity act available to its citizens, the act of congress approved November twenty-third, nineteen hundred and twenty-one, entitled "An act for the promotion of the welfare and hygiene of maternity and infancy, and for other purposes."

No. 97—67th Congress, Sec. 2 reads: "For the purpose of carrying out the provisions of this act, there is authorized to be appropriated for the current fiscal year $480,000 to be equally apportioned among the several states, and for each subsequent year, for the period of five years, $240,000, etc., provided that there is hereby authorized to be appropriated for the use of the states, subject to the provisions of this act, for the fiscal year ending June 30, 1922, an additional sum of $1,000,000 and annually thereafter for the period of five years, an additional sum not to exceed $1,000,000; provided further that the additional appropriation herein authorized shall be apportioned $5,000 to each state and the balance among the states in the proportion which their population bears to the total population of the States of the United States, according to the last preceding United States census: And provided further, that no payment out of the additional appropriation herein authorized shall be made in any year to any state until an equal sum has been appropriated for that year by the legislature of such state for the maintenance and facilities provided for in this act.

Sec. 3. There is hereby created a Board of Maternity and Infant Hygiene which shall consist of the chief of the Children's Bureau, the Surgeon General of the U. S. Public Health Service, and the U. S. Commissioner of Education, and which is hereafter designated in this act as the Board, etc.

Sec. 4. In any state having a child-welfare or child-hygiene division in its state agency of health, the said agency shall administer the provisions of this act through such divisions. If the legislature of any state has not made provision for accepting the provisions of this act, the Governor of such state may, insofar as he is authorized to do so by the laws of such state, accept the provisions of this act, etc.

Sec. 8. Any state desiring to receive the benefits of this act shall, by its agency described in Sec. 4, submit to the Children's Bureau detailed plans for carrying out the provisions within such state, etc. . . . ., the plans of the states shall provide that no official agent or representative in carrying out the provisions of this act shall enter any home or take charge of any child over the objection of the parents or the person standing *in loco parentis* or having custody of such child. (This provisior alone renders futile the opposing argument quoted previously.)

Sec. 13. The Children's Bureau shall perform the duties assigned to it under the supervision of the Secretary of Labor, etc.

Ten acceptances in Delaware, Minnesota, New Hampshire, New Mexico, Oregon, Virginia, Kentucky, New Jersey, Maryland and Mississippi were made by the state legislatures. In the other states where the legislatures have not been in session during the fiscal year July 1st, 1921, to June 30th, 1922, the acceptances have been made by the governors and it will be necessary for the legislatures to renew their acceptances when they convene next sessions.

The reason why New York has not yet accepted may be, that the department of health regulations are more exacting and better heeded than in some of the other states and that it seemed therefore less necessary to add the factor of federal control to the routine of the private physicians which, to the public at least, may have appeared adequate in regard to their care of expectant mothers and women in childbed. As far as the "welfare of infancy" is concerned, the influence of the Bureau of Child Hygiene of the Health Department of New York City is so far-reaching that its benefits are counted to the credit of the entire state, although the fact is probably overlooked that infant mortality is fifteen points lower in New York City than in country districts.

There is also a possibility that socalled birth control has, in the last five years at least, since the United States entered the world war, become already effective in its influence to keep the number of children born in proportion below the number born previous to that period. (To avoid any possible misapprehension, we approve by no means of birth control, but about that later.) Merely for the sake of argument, the time being too short to judge, we will assume that, if the proposition of the promoters of birth control had noticeably met with the intended practical result, the better care which the smaller number of children would receive and the selected stock according to their postulate must contribute to reducing infant mortality.

Whatever may be its reason, the fact remains that the "Duell Bill" to accept the provisions of the Sheppard-Towner Maternity Law, as I am informed by the clerk of the Assembly Chamber at Albany, State of New

York, this year "died in the committee on Public Health."

The printed report from the Senate under Feb. 14, 1922 reads: Introduced by Mr. Duell . . . read twice and ordered printed, etc. . . . to be committed to the committee on public health: "The people of the State of New York, represented in Senate and Assembly, do enact as follows: Sec. 1. The State of New York hereby accepts the provisions of the act of congress, etc. . . . The State Commissioner of Health is hereby designated and constituted the agency of such state for the purpose of such act, with full power to cooperate with all federal authorities having powers or duties under such act, and to do and perform all things necessary to secure to the state the benefits of such act in the promotion of the welfare and hygiene of maternity and infancy therein. The state treasurer shall be the custodian of moneys apportioned to this state under the state commissioner of health, etc.

"Sec. 2. This act shall take effect immediately."

Before this bill was voted upon, several efforts were made publicly, which showed its popularity in the State of New York, and gave promise that it would be passed and become law. As an illustration may serve, a report by one of the New York daily papers, under date of March 10, 1922, which, omitting the headlines, reads under the title: Women Indorse Bill for Maternity Aid, etc.

"Proponents of maternity aid yesterday gave their unqualified indorsement to the Duell bill to make Federal Maternity operative in this state. . . At a meeting in the Town Hall, under the auspices of the League of Women Voters, prominent speakers informed an audience of women that every legislator at Albany ought to vote cheerfully for the measure, which will place maternity and infancy work under state direction.

"All the speakers declared that the infant mortality rate could be reduced greatly if the State would undertake the work. It was said that virtually every women's organization has lined up solidly for the measure.

"Dr. Royal S. Copeland, Health Commissioner, called attention to statistics showing that six out of every thousand children were born cripples through haste and carelessness on the part of doctors. He gave his emphatic seal of approval to the bill. . . . Dr. Josephine Baker, Director of the Bureau of Child Hygiene of the Health Department, said that infant mortality was fifteen points lower in New York City than in country districts (in rural communities, public health nurses average fewer than one to 50,000 population.)

"Mrs. James Lees Laidlaw declared that, were it not for child-hygiene work in New York City, the state would be farther down in the infant-mortality rate. She added that two-thirds of the babies who die in infancy, could be saved by proper attention."

Again, the Sheppard-Towner bill was given an opportunity of receiving national attention during the sessions of the business and professional women's Pan-American Conference at Baltimore, Md. There, according to a report under April 24th, 1922, a Boston lady, chairman of the Child Welfare Committee of the league, brought out these facts in the discussion of the opposition to the bill which then had crystallized in the refusal of Massachusetts and New York to make the required appropriations of $85,000 each in order to make their shares of approximately $75,000 each in the federal provision available to those states. Nine states, California, Louisiana, Maine, Massachusetts, Nevada, New York, Rhode Island, Tennessee and Washington had not yet taken the steps necessary to enable them to receive the benefits the act offers.

New York Provides Ample Prenatal Care

As many a law, or proposed law, presented to a legislature has been the outcome of measures employed or tested in private enterprise and activity, so has the essence of what is proposed to be made the public business of all the United States, in the protection of maternity and infant welfare, been the concern of competent private individuals trained professionally to fulfill the involved tasks. In the city of Greater New York, it seems hardly necessary to make such activities dependent on a federal law, so plentiful are today the private agencies for maternity and child welfare, the "maternity centers, prenatal clinics, health centers, etc.," all supported by private funds—but all constantly in need of more funds, so that state appropriations would at least be welcome, perhaps even adequate. Here, no doubt, the work intended by the law under consideration is being liberally and generously done and could hardly be done better. New York's example cannot fail to incite other communities in the state to imitation. And it is much the same in Boston and in the state of Massachusetts.

How "prenatal" work on a large scale sprung first from the imagination of the present writer on the plan of a private enterprise, may be shown here by a few dates.

The Maternity Aid

Twenty-five years ago, before there was any thought of the necessity of examining, as to their qualifications, women who held forth as "midwives," and when any woman—as in ancient history—was permitted to advertise her-

self in the newspapers as midwife, prospective mothers received no consideration whatever by the health authorities and, unless they were under the care of competent physicians, never knew into what hands they might fall when the day came that they were "taken sick," i. e. in the throes of labor. Although, even twenty years ago, the instruction of medical students in obstetrics was very inadequate, in this country, the incompetent midwife was as much rampant as the licensed physician untrained in midwifery, and the result was a mortality of women in childbed in forbidding numbers. Many of those who survived remained physically disabled, the victims to traumatism and of puerperal disease, due to ignorance and neglect of aseptic technic. Of course, much mischief was wrought also through criminal practices with their evils of concealment, etc. So, it was high time that legal control of the midwife should be seriously considered.

In New York, in 1904, the present writer, Dr. E. H. Pirkner, aroused attention to this situation through a circular letter mailed to about 3,000 licensed physicians of Greater New York, emphasizing the necessity of sending nurses or medical students to visit women as soon as found pregnant and to instruct and prepare them for motherhood and advise them to pay monthly installments toward the doctor's fee so that competent assistance would be ready for their days of trial, with all expenses paid. This proposed reform was tested by the writer as to its practicability by a private enterprise called by him the "Maternity Aid," combining with its work instruction in practical obstetrics and infant care. It gave the foundation to the maternity centers now well established in several large cities. They carry out the plan in the sense of the federal maternity law of placing into the hands of expert obstetricians and well-trained nurses the prenatal and postnatal instruction necessary to the women meeting with their first experience of motherhood, and useful to those women who, mothers before, have not had the advantages of being visited and taught by public-health nurses under supervision of the clinic doctors, because they accepted the inconveniences of pregnancy as a matter of course instead of obviating them in time by attention to details understood only by medical persons.

June 6th, 1907, the State of New York established an Act "regulating and restraining the practice of midwifery in the City of New York," one of its requirements being presentation of a "diploma or certificate showing that she is a graduate of a school for midwives registered by the Board of Health as maintaining a satisfactory standard of preparation, instruction and course of study." Now, this is only a feeble beginning and tells nothing for the rest of the country; there are many counties in which registration of birth is almost unknown and can never be relied upon. Vital statistics are still grossly neglected in the United States.

The Bureau of Child Hygiene

Aiso, in New York City, in 1908, the Bureau of Child Hygiene was organized. Regarding it, its founder and director, Dr. S. Josephine Baker, under date of November 16th, 1922, writes as follows: "It was the first bureau of the kind to be created in this or any other country for this purpose, to prevent disease and improve the health of the children of all ages insofar as a municipality could carry on such work. For many years, it was the only bureau of the kind carried on under government auspices; but, in 1911, the New York State Department of Health organized a similar bureau and, shortly thereafter, the Children's Bureau, Washington, D. C., was created, and from that time on other states and cities have taken up the work, until now the latest figures are that 44 states have bureaus of child hygiene and practically every city or town of importance in the country is similarly equipped. The Bureau of Child Hygiene of New York City's functions include:

1.—Supervision and control of midwives;
2.—Reduction of infant mortality by means of
   (1) Prenatal instruction of mothers
   (2) Establishment of baby health stations
   (3) Little Mothers' Leagues
   (4) Educational propaganda;
3.—Supervision of foundling babies placed out to board;
4.—Physical examination of children of preschool age;
5.—Supervision of day nurseries and institutions for dependent children;
6.—Health supervision and health inspection of school children, including maintenance of dental clinics, refraction clinics, clinics for treatment of contagious eye diseases and supervision of special classes for crippled, partially-sighted and other handicapped children;
7.—Physical examination of children in connection with issuance of employment certificates, in accordance with the provisions of the Child Labor Law.

The Latest Reaction

When the writer, in 1904, threw the stone into the water by his circular letter and, in 1909, after publishing his experiences in an article contributed to *American Medicine*[2] was invited to address a meeting of the New York State Charity Organization, the ripple which appeared on the surface exhausted itself in his private enterprise of giving protection to prospective mothers, including those who had ignored the social conventions and had merely yielded to nature's call. The stir, however, had left a sufficient impetus to make ever widening circles appear which, reaching shore, caused a lasting impression. After the licensing of midwives, a vigorous campaign was initiated by the County Medical Societies which forced the daily papers of New York to discontinue advertising for criminal purposes. Finally, only the recommendation of "contraceptives" under the ban of the law remained as a blur on the surface which propaganda is striving in vain to smooth out by a proposed law, the "birth control."

Birth Control Criticized

In its beginning, the movement started by Mrs. M. Sanger, R. N., was well intended, seeking a practicable way of creating the most favorable conditions for an improved human stock. Only her reasoning is sophistic and the very slogan which the proponents of birth control wrote on their banner assumed an infelicitous form bound to arouse antagonism. Birth control? Does not the very term arouse in the casual hearer (before he forms a conception of its supposed meaning) a feeling of aversion as from an interference with his natural rights? The first thought which occurs: Birth must not be allowed its course. Can you, unpunished, disturb nature when engaged in the performance of one of her most vital functions, a function which it has taken millions of years to bring to its highest perfection, when in the crucible of time countless individuals and generations have been ground up to atoms, macerated and re-formed in order to elaborate an ever-improving form as nature's final aim? Puny man or woman cannot interfere without inviting baneful consequences.

Birth control is licensed lewdness. The only control, natural and efficient, is self-control, the deliberate control in the sexual relations, such as Malthus originally recommended as the remedy of a supposed numerical preponderance of population over the possible food supply.

It is a physiological law that all the functions which serve the preservation of the individual (self-preservation) and also those governing the preservation of the race (propagation) are accompanied by pleasurable feelings which must not be diverted, curtailed or interfered with. If such is done, nature seeks revenge. Remember how angry a dog may become, how he growls when you disturb or interrupt him while he is eating. We know of many sexual equivalents which set ideal satisfaction in place of physical indulgence, for instance through the presentations of the arts. And, so, a performing musician, as much as his audience, resents being interrupted by anyone or anything; their natural instinct is hurt by any attempts to divert them from their absorption.

Again another ring of the successive circles to reach shore, was my proposition of a law (and it seems to me of paramount importance) to make "notification of pregnancy compulsory" for physicians and midwives; the women themselves to notify the health authorities as soon as pregnancy is detected. My article on this subject was published by The American Journal of Clinical Medicine, March, 1918. My original proposition, to place all pregnant women under official observation, had been approved in 1910 by the Medico-Legal Society of New York.

Now, the last circle vibrating on the clearing waters is again "Maternity Aid." Automatically, this term has found acceptance.

In conclusion, I quote the remarks of Narcissa Cox Vanderlip, chairman, New York State League of Women Voters: "Federal midwifery, during the war, we thought, was a matter of national defense to have strong, healthy men and women. The welfare provisions of the federal constitution cover stranger creatures than babies. If it is constitutional to use federal funds to save hogs from cholera and cows from tuberculosis, it is constitutional to use them to save babies and mothers from death."

In the immortal words: "It is a condition, not a theory that confronts us." The babies and mothers are dying at a rate no other civilized country permits. The localities do not know how to save them and have not the money to save them. The Sheppard-Towner law makes it possible to bring them this help.

[1] An editorial in Clinical Medicine (Oct. '22, p. 716), refers to this petition before the Supreme Court of the United States.

[2] The Problem of Race Suicide, a problem of national hygiene and prophylaxis rather than of Political Economy. *American Medicine*, New York, August, 1909.

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Solution of Surgical Problem No. 7

RECAPITULATION of the Problem.—You are called to see a young woman, who, for two days past, has suffered intensely from "inflammatory rheumatism" of the left elbow. The patient obtains no relief from an opiate. The joint is red, hot and swollen, and any attempt on your part to palpate the affected region causes the patient to cry out in great agony. The patient generally appears to be very ill and exhausted, with a pulse of 100 and a temperature of 102° F.

The requirement in the problem calls for an exact diagnosis and a non-operative therapy by which speedy relief and eventual recovery is assured.

Note.—Before presenting the following solutions, it is a great pleasure to me to be able to announce still greater manifestation of interest in the Seminar than shown heretofore, through the fact that I have before me at least forty correct answers or solutions, about ten replies which are best classified as non-committal, while a very few gave an incomplete or, as the writers themselves term it, "doubtful" diagnosis.

I have had some difficulty in the classification, as can be seen by the following partial quotation of one letter of the last class:

The diagnosis is almost self-evident from the description—that of arthritis. How else can such a case be diagnosed offhand, without there being time and means for a more scientific investigation? This woman may have scratched herself with a dirty finger nail or in some similar way have acquired a streptococcus infection. A wide incision without delay, followed by antiseptic compresses, is the treatment vitally indicated.

Not so, my good brother! How often must I repeat that there would be no Seminar at all if we selected for discussion cases which afford us the means and leisure of thorough and prolonged scientific investigation? A cynic may call me to account and quote the famous Rokitansky, who is alleged to have asserted that no diagnosis is scientifically complete and of value until it is accompanied by a report of the postmortem findings; but I believe such ultrascientific viewpoints are getting less popular "day by day" in this glorious country where we are not accustomed to kneel in humility before the mighty, even in science.

And, so, we come back to reality. The fact is, that you are in a house late in the evening and the patient—by the way a poor domestic—suffers much, and you are really called upon to produce results. Of course, you can send the patient to the hospital, if there happens to be one in town, and gain a little time and change of surroundings, so that you are not exposed to the interested gaze of the people in the house. But, just the same, that is not the proper solution of the problem presented for the present.

I have purposely called attention to the fact that an opiate has failed. My object was, to avoid any further discussion as regards resort to the hypodermic needle. In fact, I may say that the hypodermic syringe should be carried for entirely different purposes and used for the administration of an opiate only in exceptional cases.

If any one should raise any objection to this statement, I am going to ask Brother Candler to come to my rescue; for, I do not pretend to be an internist. Nevertheless, I have had my obstetrical forceps replated several times and had worn out a few medicine cases before I dared announce myself to the profession as a surgeon. So, I am not altogether a mere sawbones and I refuse to be muzzled even in internal problems.

To come back to our subject, the diagnosis "arthritis" is meaningless. I have said as much when I said that the elbow was hot, red and swollen. If there had been any visible or revealed source to justify the assumption of a streptococcus infection, I should have said so. Accordingly, the proposed treatment can be dismissed as harsh and irrational. Besides, the "requirement" does not call for operative therapy.

Three Opinions

Now, let us all meet in consultation. I have selected the three best contributions, though I must confess that so many good ones have come in that I had a hard time deciding upon

them. After that, I will presume, by the divine right of possession of the tripod, to sum up the evidence.

Colonel George Acheson, of Kingston, N. B., our loyal collaborator of this department, presents the following scholarly discussion:

The symptoms, as detailed, point only to some acute inflammatory condition in or around the left elbow joint; but the data are not sufficient to permit of an exact diagnosis.

There are a number of pathological conditions which occur to one as possible explanations of the *status præsens,* e. g., acute bursitis, acute inflammatory rheumatism, synovitis, and arthritis, infective, or non-infective.

The recent medical history of this patient should be inquired into, and would probably throw considerable light on the case. Has there been any injury to the elbow, such as might result from a blow or fall, or anything in her employment necessitating long-continued pressure on the olecranon? If so, this might point to a condition analogous to "housemaid's knee"—an acute non-infective bursitis; or, if the local signs indicate a suppurative process, to acute infective bursitis.

Again, if there is a history of sore throat, and, especially, if there has been any complaint of pain in any of the other joints, rheumatism may be strongly suspected. Here, one would expect considerable sweating, with the reaction of saliva, sweat and urine strongly acid.

If there is a history of sprain, we may have a simple traumatic synovitis to deal with. Of the forms of synovitis due directly or indirectly to microbic infection, excluding tuberculous inflammation, we might have a syphilitic, gonorrheal or septic case. Here, too, the history would point to the causative factor.

Before committing myself to any positive diagnosis, I would, after careful inquiry into the patient's recent history, look for some evidence of rheumatic, syphilitic, gonorrheal or other septic infection, and for any history of sprain or other trauma. If there is any fluid present about the joint, its nature could be determined by an exploring needle.

Immediate Therapy.—If pus be found, the case is one for operative surgery. In the absence of any sign of suppuration, I should apply lead-and-opium lotion, cold; order complete rest for the limb; give 10 grains of cinchophen, with 15 grains of sodium bicarbonate, in a large draught of water, every two hours until effect; and, in any case, secure free evacuation of the bowels by salines.

Dr. Isaac E. Crack, of Hamilton, Ontario, our equally esteemed collaborator, properly adjusts his diagnostic compass for orientation as follows:

Re diagnostic problem No. 7: We have here an arthritis of infective origin (not rheumatism). Before giving a positive opinion, I consider it necessary to know whether the patient has a urethritis, for this case very strongly points to a gonorrheal arthritis. But, I would also bear in mind focal infection elsewhere. The probability of osteomyelitis must not be lost sight of.

Treatment.—Put the arm at rest and apply a saturated solution of magnesium sulphate with equal parts of alcohol and lead water. The acute stage is likely to subside in a short time. Then, Bier's hyperemia will probably assist in bringing about a cure. Constriction like this should be watched very carefully. If osteomyelitis is present, early surgery is indicated.

Dr. L. B. Gray, of Bay Shore, N. Y., a newcomer to this department, is introduced to the readers without any other comment except to say that I sincerely hope he, too, will become a collaborator through his regular contributions. His comment on the problem speaks for itself:

Surgical Problem No. 7, brings to my mind the following: Like the tent of a three-ring-circus, rheumatism covers a lot of things. As the young lady is not Caesar's wife, she may have been attacked by the insidious and omnipresent gonococcus.

The first thing that the patient, employer and solicitous (meddlesome?) friends want is —rest. Diagnosis and treatment in full, later. For the night, I should advise (either by mouth or hypodermic injection) one dose of Hyoscine-Morphine-Cactoid, to be repeated in three or four hours, if needed. Wrap up the entire arm in cotton to keep it warm, adjust it to a comfortable position on a pillow and apply a warm—not hot—water bottle.

The next morning, I should endeavor to get the lady's confidence, and see whether I could induce her to admit a recent attack of vaginitis or Bartholinitis. I should make a white-blood-corpuscle count and examine the bursal areas of her elbow. I should also take a vaginal smear and order an x-ray.

As for treatment, I should suggest light diet, absolute rest in bed, salicylates or derivatives until result is obtained. Radiant energy, as typified by a baking light, and mixed vaccines suggest themselves as of great value. The (hypothetical) vaginal condition should have careful attention.

Comment

I feel a good deal like a fifth wheel to the wagon today. The three gentlemen have said all there should be said on the subject. My comment must be restricted, therefore, to the frame of the requirement, as given with the problem.

Now, as a matter of fact, I have not selected a hypothetical but an actual case, and, what is more, I have seen so many similar ones, that I hesitated somewhat to select this class of arthritis as a suitable subject for discussion. But the discussions themselves have convinced me that I have chosen better than I dreamt.

Now, my previous experience has been such that, when we have an inflamed joint, which is so painful that the least touch causes the patients to betray agonizing pain and tenderness, there is, to my mind, no question that we have a metastatic infection produced by (as Brother Gray describes it) the "insidious and omnipresent" gonococcus. I know of no other microbe that produces such exquisite tenderness, not even the justly dreaded streptococcus. I think, in my life I have seen the worst possible cases of streptococcus infection; I have seen the patients die despite extensive and deep incisions and constitutional treatment. Yet, I do not recall one who would not allow me to make an examination of the joint or joints affected and cry out in agony. The explanation for this may be interesting from a theoretic point of view, but we are interested in the practical only—at least in a seminar.

The Diagnosis

With this experience as a guide, the diagnosis is not difficult even at first glance. Of course, in the presence of company, it will not do to ask the patient: "Madam, when have you had the clap?" for more reasons than one. I should not even ask her at that time whether she had ever felt a sensation of burning on urination. For, in the first place, the question may lead to nowhere and, in the second place, the dignified employer herself may recall a somewhat similar experience, years since, soon after she was married, and it might awaken her to a realization that her domestic had loved too well though not wisely.

In the event that you have to deal with a recently married matron, a little talk of the "Hell and Maria" variety with the husband, in a separate room, will clinch the diagnosis. In the case as given, I did just what Dr. Gray suggested, I waited until I had her in the hospital and then obtained sufficient evidence to make interrogation superfluous. But I talked freely over the protest of the poor girl that she was a single woman. I replied that I was a rationalist and that church ceremonials are not accepted as etiologic factors, nor does their absence exclude them. And, then came the usual feminine answer in the form of a lachrymal shower.

The Treatment

Now, when I asked for a non-operative treatment that had the promise of bringing about speedy relief and an eventual cure, I had in mind Bier's passive or, as it is also called, constriction hyperemia. This can be produced with an ordinary soft rubber bandage. Assuming that the right degree of constriction has been found, the relief should be instantaneous, and so much so that, ten minutes later, the patient will allow you to flex the joint without crying out, provided, of course, that the manipulations are done in a gentle manner. I have seen our patient's employer gasp in astonishment, when I demonstrated what a simple bandage can do. I have seen others; and only very recently I demonstrated to my assistant and to a number of physicians, in a similar case in a young man, that I could extend and flex the right elbow afflicted with an acute gonococcal synovitis when, but a few minutes before, the merest touch of the affected joint would cause him to grit his teeth in agony.

In the hospital, where these treatments are administered three or four times daily and the applications are to last for about half an hour, I think the use of a blood-pressure apparatus to be far better than the simple rubber bandage, since either the nurse or the patient can adjust the cuff to the right degree by watching the needle-indicator. That is to say, the needle must be at the point which by previous experiment has been found to indicate the proper degree of constriction. A bandage applied too loosely will accomplish nothing, and one applied too tightly will do harm.

I am so confident of the value of passive hyperemia that, if no relief is obtained from the first application (assuming, of course, that the proper degree of constriction has been applied), I question the correctness of a diagnosis of gonococcal arthritis or synovitis. Even if evidence of a gonococcal urethritis or colpourethritis be present (and that is often the case and misleading) I look upon the two as separate affections which have nothing in common. In other words a patient may have clap and an arthritis of different origin. But, I repeat again, that then the sensitiveness of the affected joint should not be so pronounced.

It is beyond the scope of the requirement to discuss any causative therapy, but I do not desire to be misunderstood that the constriction cures also the focal infection. That must be looked after as soon as circumstances permit.

Surgical Problem No. 9

The following problem is kindly presented by Dr. Isaac E. Crack, 970 King Street, East, Hamilton, Ontario (Canada), and it is requested that participants in the discussion send

in their contributions as early as possible, as it may be necessary for the Editor to communicate with the author for special comment.

A woman, aged 61, has always been in good health. On Wednesday, January 10, she was suddenly seized with severe abdominal pain and vomiting. The bowels had not moved for three days, which was very unusual. Pulse and temperature undisturbed. All medicines were vomited; but, relief followed shortly after evacuation of the bowels produced by enemas.

The patient remained well until Friday, when she was again seized with abdominal pain but without vomiting. Temperature 99° F., pulse 100, at 7 p. m. Examination of the abdomen showed tenderness and a mass in the lower abdomen comparable to a pregnant uterus at about the sixth month. Examination per vaginam shows the uterus to be normal, but a large mass can be felt posterior to the uterus, fairly hard and tender. At 10 p. m., the same evening, the temperature is 99° F. and the pulse 116 with a leucocyte count of 5000.

Required: Diagnosis and treatment.

SCOLDING THE PHYSICIAN

Recently, we had a good deal of correspondence with various physician friends concerning the many difficulties that confront physicians as a class and with regard to the etiology, diagnosis and treatment of these difficulties. One of our friends wrote a letter that contains so many true things that we feel constrained to reproduce it in the following. It is not exactly pleasant reading. It tells too many disagreeable home truths. Nevertheless, we should take it to heart and should, all of us, awaken from the fatuous nonactivity, the *laisser faire* attitude that has beset us for altogether too long a time. The letter follows:

"The medical schools today are not producing men for general practice. Young graduates know about five remedies to use. Do you ever see information in some of the very topmost medical journals that is of benefit in treating any patient who consults you? Can you name one drug in the Pharmacopoeia which would help you in treating a case of Bright's disease? Have we a clinician today who can measure up to Widal, Babinski or Gilbert? Have we a work on therapeutics which can compare to Ringer's? (How many physicians have stolen their material from Ringer?) Have we a set of textbooks on clinical medicine which would compare with Trousseau's, printed in 1859? Have we a Benjamin Rush today?

"Sir James Mackenzie is doing the kind of work I wish to see others do and there is no reason why physicians should not do it. The only thing which prevents others from doing it is, *Laziness, pure and simple.* Medical men have become the most conceited class there is; they believe they know everything and do not need to study. In — — —, there is an excellent medical library with a fine lot of medical journals. I have never seen a doctor there reading. We live in an age of laziness, physical, moral and intellectual. Doctors will not keep up with the times; they have become hard and critical and disseminate little hope in the sick room. The laziness has become so pronounced that a physician will not make a diagnosis with a stethoscope, but must have an x-ray diagnosis for tuberculosis, and even for pneumonia.

"I have been in Widal's clinic and have seen him spend an hour studying one case. He had no laboratory tests made, not even a blood-pressure test. When he had finished, I wish that I could have known as much about the patient as he did. I should have fumbled over my books and after many tests been so far at sea as when I started . . . like Oliver Wendell Holmes, who said that the old woman who knew how to make a poultice, when to make it, and where to apply it, was of more use than the pathologist, who, after his laboratory tests were completed, went home and fumbled his books, and knew nothing when he ended.

"To show you what the laboratory sometimes will do for a patient, a few days ago, a man of fifty-six came to me; he had been the rounds of specialists, with no results. Each man he went to made a test of the spinal fluid, the last one sent the fluid to three laboratories. Each one showed a negative Wassermann and, as usual, the old man was told to go to work. I may add, parenthetically that, notwithstanding the number of doctors he has been to, he still has his teeth! There are very few sick people today who can say that. He was an expert machinist but had not worked for eight years because of one symptom, vertigo. He gave a history of syphilis thirty years ago and has a little scar on his penis which makes us believe that he is not trying to deceive us about it! He had little treatment at the time of infection. Since the Wassermann was negative, what should be done? I gave him some tablets of red iodide of mercury and, in two weeks, he was free from vertigo and was able to return to work. I will not tell this result to many, because I will get the same response: Coué-ism! or something else to remind me that Nature did the work and not a mere drug."

In a later letter, the same correspondent has the following to say:

"It is high time to find someone on the constructive side of medicine. We have had enough of autocratic medicine. It is also high time to get out of this physical, mental and moral laziness. Why should physicians depend upon others to do their thinking? Dig

[*Continued on page 208*]

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

Happiness

The happiness of your life depends upon the quality of your thoughts.—Marcus Aurelius.

WE all desire happiness; we regard it as the most desirable thing in life; we think we know what it is; but, if we were to ask a score of persons to define it, we should probably get nearly a score of different answers. If we consult the dictionaries or the philosophers of literature, we find a similar variation of opinion.

One writer defines it as: "The pleasurable experience that springs from the possession of good, from the gratification of the desires, or from relief from pain or evil."

Most of us have lived long enough to learn that the gratification of the desires does not always bring happiness, but very often proves disappointing; like the fabled dead-sea fruit which is fair to the eye, but within is naught but ashes. Most of us think, we should be happy if we were rich, but the possessors of wealth, especially of great wealth, are often far from happy.

Another describes happiness as: "A state of being, more or less permanent, in which is experienced a large measure or the full complement of satisfaction, especially of the higher intellectual and moral kinds."

This writer has evidently reflected much. His proviso "more or less permanent" shows that he has observed the uncertain and transitory nature of what people regard as happiness; and he has also laid hold of the great truth that the true basis of happiness is in the intellectual and moral realm.

Another author says: "Happiness is the complement of all the pleasures of which we are susceptible"; and still another, "A condition in which pleasure predominates over pain or evil."

These last seem to put rather much stress upon pleasure. We see people whose lives are given over to pleasure, and who yet are far from happy; while, on the other hand, we see those who have little of what is called pleasure, and yet are reasonably happy. They are generally persons who have come through affliction and suffering, and have schooled themselves to bear them philosophically, looking beyond the present, and perhaps supported by the consolations of religion. For, whatever the materialist may think of religion, the fact is indisputable that millions find it a source of happiness.

In the classics of English Literature, we find many references to the subject in its various aspects, according to the viewpoint of the writers.

Thomson in the *Castle of Indolence* says: "Health is the vital principle of bliss."

Hosea Ballou says: "Real happiness is cheap enough, yet how dearly we pay for its counterfeit."

Madame de Stael, in one place: "One cannot be fully happy till after his sixtieth year"; and in another, "Be happy, but be so by piety." Evidently the opinion of her later years.

Bovee asserts: "The greatest happiness comes from the greatest activity."

Barry Cornwall exclaims: "Oh, why has happiness so short a stay?"

Goethe asks: "Who is the happiest of men?" and then answers his own question: "He who values the merits of others, and in their pleasure takes joy even as though 'twere his own."

In Goldsmith's "Traveller" we read:

"Still to ourselves in every place consigned,
Our own felicity we make or find."

Longfellow in "The Golden Legend" has: "To be strong is to be happy."

In his much quoted "Essay on Man," Pope has the stately lines:

"Fixed to no spot is happiness sincere;
'Tis nowhere to be found, or everywhere;
'Tis never to be bought but always free,
And fled from monarchs, dwells with thee."

The genial Sydney Smith (not the creator of *The Gumps*) thus philosophizes:

"Mankind are always happier for having been happy; so that, if you make them happy now, you make them happy twenty years hence by the memory of it."

From Young's "Night Thoughts": "True happiness ne'er entered at an eye; it resides in things unseen."

Obstacles to Happiness

Of these, the greatest is unquestionably fear, commonly called worry. It hangs like a dark cloud over the lives of the vast majority of the human race. It spreads its nefast pall over us even in childhood. Even the infant fears strangers or perhaps unfamiliar noises. As a child, I suffered untold terrors from many things. I was afraid of the dark, of thunder, of ghosts, of war, even a large body of water, such as a lake or an ocean, filled me with a vague, inexplicable terror. This may have been due to hearing stories of drowning. The stories of older people are responsible for most of childhood's fears. After listening to stories of ghosts, or of haunted houses, it is no wonder that a child is in terror of the dark. So thoroughly were those terrors ingrained into my childhood's mind that, even when I was nearly grown up, I could not pass a grave yard at night without a nervous tremor of fear, and my dreams were full of ghosts, and wars, and all sorts of uncanny things, even visions of death and hell. The latter were due to the kind of religious teaching I had. Grown people who tell ghost stories or preach hell in the hearing of children are guilty of the most brutal cruelty. Children are not naturally afraid of the dark. Unless they have had their imaginations abused by older people, they do not fear it. Even thunder and lightning can be presented to a child's mind in such a manner as to rob them of their terrors. We were taught that thunder is the voice of God, and that we were liable to be struck dead if we laughed or played or showed any sort of levity during a thunderstorm.

Henry Ward Beecher was once asked whether he thought that the weather had any influence on a person's religion. He replied that he believed it did, because he had known many people who were good Christians during a thunderstorm. Remembering how much I had suffered from terror during storms, I resolved when I had children of my own that they should be spared that martyrdom if it was in my power. I taught them from the first that lightning was a beautiful display of fireworks, and that thunder was as sublime and grand as the thunder of Niagara Falls, or any of nature's displays of power. When an electric storm came on, especially at night, we would sit by the windows and watch for the brilliant flashes, "fireworks" they called them. Seeing that I treated them as something beautiful, they never thought of associating them with fear. They classed them in the same category as rain or hail or any of nature's displays of power.

As we advance in life, the character and objects of our fears change, but they are ever with us. The mother fears for the welfare of her children. Sickness and death are always in the background to rob her of her treasures, or perhaps she fears the loss of her husband's affection, or his loss by the hand of death.

The man fears bankruptcy or the loss of his situation. Financial cares may oppress him and render his nights sleepless. He may be out of employment, or his health may be undermined, and he fears the day when he may see his loved ones in poverty, and be unable to help them.

Worry is the fear of what *may* happen, and we are very apt to forget that the things we fear seldom come to us. But, even if they do happen, it does not follow that we must be unhappy. We always find a way through our difficulties.

Misery Loves Company

We can usually see others who are worse off than ourselves, and we can congratulate ourselves on that fact. It is an old saying that "misery loves company," and it seems to be ingrained into human nature that, if we see others more unfortunate than we are, it makes our own troubles easier to bear. In comparing our own condition with that of others who are in worse case than ourselves, we are not indulging in selfish or unworthy comparison, although there are people who think so. Gratitude is not an unworthy sentiment, and, to feel grateful that we are in a better state than our neighbor, is perfectly consistent with sympathy for him and a desire to help him.

To congratulate ourselves that somebody else suffers more than we do, would be ignoble and unworthy. But, that is not what we do. What we really do is, to imagine that we might be in the same condition as they are, and to be thankful that we are not.

When I first became disabled, eight years ago, and realized that I would probably never walk again, I saw some pretty dark days. My philosophy was not quite equal all at once to

facing my fate with equanimity. An old minister, whose visits were always welcome because of the sunshine that he radiated wherever he went, said to me one day, on leaving: "Do not forget to count your blessings." After he was gone, I began to think what his meaning was. I felt at first that I had no blessings to count. But, the more I reflected, the more I could see that in many respects I might be worse off than I was. Gradually I came to see that happiness is largely a matter of attitude; in other words, the way we take things. It is in no spirit of egotism that I assert that the past eight years have averaged about as much happiness as any eight years of my life. If there are some things that are denied me, I devote myself to enjoying those that are within my reach and forgetting the others. None of us have all the good things we would like, but we generally have a fair proportion.

In childhood, we long for the time when we shall be grown up; we think that then we shall be happy. In adult life, we look back and think how happy and care-free we were in childhood. But we deceive ourselves; we have merely forgotten the troubles of childhood. True, they were troubles about trifles, but to the child they did not seem trifles—they were very real. I can vividly recall the unhappy frame of mind in which I went to school when I was seven years old. I had such a fear of the stern teacher, that I was more unhappy than I ever was in after life. Much of the unhappiness of childhood is entirely needless. A little less thoughtlessness on the part of older people would spare children much mental suffering.

The Golden Age

Individuals, as well as nations, look backwards to a Golden Age. But, though this tendency is practically universal, it is nevertheless an illusion. It is a benevolent dispensation of Providence that the memory of pleasant experiences lingers in the mind, while that of disagreeable things fades out; and so we think of the past as happy—a Golden Age.

The Golden Age is *today*. With all the world's turmoil, war, crime and misery of today, there is nevertheless more happiness and more opportunity for happiness than ever before. We have only to read history to find the proof of this assertion. Such conditions as prevail in Europe and Asia today are exceptional. Once they were the universal and constant condition of the race.

Anyone who wants to know the condition of the common people in medieval Europe, should read Charles Reade's "The Cloister and the Hearth"; and he must have a singular mentality if he does not feel glad that he lives in the twentieth century instead of in the fifteenth. This book pictures the life of Europe in the Middle Ages in a manner more vivid and personal than most histories, many of which are so occupied with accounts of wars and the doings of kings that they fail to picture the life of the common people. You may say Reade's work is fiction, but the fiction consists only in the names and personages. The actual conditions of life there described are not fiction. There is plenty of reliable evidence of the hard conditions under which people lived then, and the farther back we go, the more miserable we find the condition of the common people.

Health has a profound influence upon one's happiness. Indigestion, a sluggish liver, the constipation habit, may throw a pall of gloom over one's spirits. Some persons inherit a tendency to melancholy and a pessimistic view of life. Even the weather affects some individuals, so that a cloudy, gloomy day causes depression.

Unfulfilled desire causes much unhappiness with those who are not philosophical enough to take a rational view of their disappointments. One man has set his heart on accumulating a fortune. Another has looked forward to the joy of having a home, founding a family, and leaving children to be the stay of his old age and perpetuate his name. Another has an ambition to be famous in his career, so that he may be a leader of men and leave an honored name behind him. These are all worthy desires and, yet, they may go unfulfilled and leave the individual who indulged in them embittered and disappointed.

Idleness is rarely consistent with happiness. True, there are some lazy individuals who experience a sort of animal satisfaction in their sloth, but it is not to be compared with that which comes from useful activity. In fact, work is the most wholesome thing in the world and, until we have learned that truth we are only partially civilized. The savage regards work as fit only for women, slaves and beasts of burden.

The man of wealth, who retires from business with the intention of devoting the rest of his life to pleasure, is seldom happy, although he has the means of gratifying every wish and whim. Such men are almost sure to become the victims of boredom in a very short time unless they have some substitute interest, such as scientific study or some hobby

to which they can transfer the interest which they formerly expended on business.

The Curse of Selfishness

Selfishness is a great bar to happiness. One writer says that, to live as if happiness were the chief object in life, is really a piece of selfishness. No doubt, this is in a manner true; our own gratification is not the highest motive we can have.

The thoroughly selfish individual dwarfs his own soul and diminishes his capacity for high and noble motives. He is a loser in three ways: 1st, he cannot always have his way and, in consequence, suffers disappointment; 2nd, he makes many enemies by his selfish actions, and their contempt cannot fail to react upon him unfavorably; and, 3rd, he is a stranger to the pleasure that comes to us when we make others happy. This is one of the highest and most enduring types of pleasure of which we are capable.

There is a kind of selfishness which renders the possessor most unhappy. It takes the form of a morbid self-consciousness. The individual is continually attributing wrong motives to the acts and words of others, and taking offense where none was intended. I know a lady who is in most respects a very worthy woman; but she has been thinking of herself until she has become morbid on the subject. An absent-minded friend passes her without speaking, and she at once concludes that her friend has cut her. Nothing will convince her to the contrary. Or a friend makes a remark that she construes as a slur. People who are looking for slights are sure to find them or what they consider as such. These supersensitive persons are unhappy most of the time, and on purely imaginary grounds. They need to root out self-consciousness as they would weeds in a garden; and they must learn to give others credit for good intentions. Above all, they need to devote themselves to acts of kindness to others, and thus forget themselves.

To Be Happy

In the first place, stop chasing happiness. The historian Froude remarks: "To be happy, is not the purpose for which you are placed in this world." His meaning evidently is that, to make the pursuit of happiness our sole aim, is really a form of selfishness. There are other things that are more worthy of our efforts than self-enjoyment. When we stop living for happiness, she comes to us unsought. Like a shy maiden, woo her, and she flees us, but stop pursuing her and she comes to us of her own accord.

In enumerating the greatest and best means of promoting our own happiness, I am inclined to give the first place to work—honest, useful, congenial work. It occupies our minds in a wholesome manner and, when we do our work conscientiously, we enjoy a satisfaction that nothing else can give. We like to do the things that we can do well.

In the second place, I should put: "Banish fear." Stop worrying. Cultivate optimism and contentment. Let the mind dwell on the things that are favorable in your surroundings; you can always find some. Do not dwell on the misfortunes that *may* happen. Ten to one they will not. If they do not, you have saved some useless worry. If they do, you have at least saved advance worry and cheated fate to that extent. Remember, everything can be cultivated. The more we look on the bright side, the easier it becomes, till at last it becomes automatic. And, what person in all the world needs a bright, cheerful, joy-radiating mentality more than the doctor? It increases his power many fold.

Another fruitful source of happiness, which some would put first and which perhaps should have been put first, is giving happiness to others. Making others happy is one of the surest ways of being happy ourselves. Observe how, at Christmas time, everybody tries to make others, especially the children, happy; and, in seeing their joy, who is so stolid as not to respond to the joy of giving pleasure!

In our everyday life, we have constant opportunities of helping others, of showing them some little kindness, even if it is only to be cheerful and pleasant towards them. Courtesy begets courtesy, and it is an admirable smoother of the roughness of the road in our daily intercourse with the world.

Perhaps no writer has ever surpassed Charles Dickens in the skill with which he pictured the attractiveness of a kindly, genial, beautiful personality. Such characters as Agnes in "David Copperfield," or the Cheeryble brothers in "Nicholas Nickleby," or Florence in "Dombey & Son," are masterpieces of the word-painters' art. The great novelist, in writing, his "Christmas Carol" and there drawing his immortal portrait of Scrooge, first in his selfishness, and then in his changed nature, has given the world a sermon that perhaps has never been equalled, from any pulpit. It has been read and re-read with pleasure by millions, and will be read by millions more to the end of time. Lord Jeffrey assured the author that he had "done more good, and

not only fostered more kindly feelings, but prompted more positive acts of benevolence, than can be traced to all the pulpits and confessionals since Christmas, 1842." ("The Christmas Carol" was written in 1842.)

Lastly, a means of happiness is religion. I am aware that here I am on delicate ground. But, every person has some sort of belief, and each one should select that form which he thinks will promote his happiness best. It seems to me a self-evident duty for each one to adopt some sort of views on the subject of his relations to his fellow man, to his Maker and to a future life. Those views may be imperfect, but they are better than none; provided that they are held honestly and with an open mind. The one who believes that this life is a preparation for another life of greater usefulness, and consequently of greater enjoyment, has a source of happiness that is lacking to the materialist. When John Burroughs was dying, he expressed his absence of belief in anything beyond this life. I am not saying whether he was right or wrong, but I cannot help thinking that his last years would have been fuller and richer and happier if he had had the conviction that ahead of him lay, not a blank, but a field of greater and grander opportunities of service and happiness than he had in this life.

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up the older practitioners and let them tell us a few of their experiences, how they dealt with certain diseases without the help of a group diagnosis. They did not have the advantage of nurses, assistants, laboratories, etc., but were forced to relieve a patient because there was no alternative.

"The great necessity, today, is to make the general practitioner become more efficient, to make him able to compete with specialists. I know you will succeed in stimulating the profession to do better work, to take postgraduate courses, get up-to-date equipment, have their own laboratories and do their own laboratory work. Considering the Aloe plan of partial payments, there is no excuse for any doctor not to have a good equipment.

"The first thing to do is, to have a house cleaning. Make the office clean and acceptable. Get rid of out-of-date books, except the good ones, revise the library, have instrument cabinets, sterilizers, a sphygmomanometer on the wall, a microscope, laboratory, treatment apparatus, x-ray, high frequency apparatus, electrodiagnosis instruments, etc. How can a man be progressive in a filthy office? Why don't you start a cleaning-up month amongst the profession, get the cobwebs out, as it were, and, when the cleaning is over, let the doctor go to a first-class tailor and end with a manicurist. The profession needs a little manicuring. They need to get out of this physical, moral and mental rut. After all, what makes a great man except success? People love to go to a successful and busy man; they will not go into an office which is empty. No one enjoys going to a man who is not progressive. All great physicians are well dressed and look prosperous.

"In looking around at many medical meetings, one might think that it was a gathering of horse-traders, judging from their hair, clothes and shoes. A friend of mine, in the A. E. F., was always so particular about his dress. During an air raid in Paris, he would shine his shoes. I called upon him and was astonished at his office; it was filthy; old shoes under the examining table, filthy floor and walls and a spittoon on the floor. The same old thing; anything will do in medicine. But, it will not."

No doubt our good friend (and your good friend, too!) felt much better after this mental catharsis. The fact that he overstates matters in some respects does not detract from the basic truth of his position. Regarding his charge that physicians no longer study, we must protest, at least to a certain extent. We know that many, very many physicians, in city and country, are hard students. Here in Chicago, in the beautiful Nicholas Senn reading room of the John Crerar Library, one may always find numerous physicians reading and studying. We are constantly asked for advise as to suitable books on general and special subjects.

Reversely, it is also true that the frequent excuse of "No time to read; too busy!" is simply a convenient alibi, if not a very good one. Much time is frittered away on useless fussing and trashy reading, during working hours that should be devoted to study, to reading and to laboratory work. Leisure reading should be done in leisure hours; not during office hours.

We are glad that our correspondent has corrected the impression conveyed in his first letter that he holds laboratory investigations and instruments of precision but lightly. His second letter shows that such an impression would be a mistaken one. Nevertheless, he is right: The careful study of the patient, the finding out of what our eyes and ears and hands can discover, will prove highly informative. The results of such detailed and painstaking search may then usefully be supplemented by laboratory examinations, by blood pressure readings, x-ray examinations, and all the rest of it.

The lesson, we take it, is just this: Just because we belong to the medical profession, does not entitle us to rest on any imaginary oars and be pleased with the wonderful prog-

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Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

Bolivar Blaas

PERMIT me to introduce for your edification, Zion, Ill., the *Leaves of Healing,* and Wilbur Glenn Voliva (*not* BOLIVAR—**he** was the big elephant in Barnum's circus and a decent kind of pachyderm), Chief Zip-Zip of Zion ever since the late lamented John Alexander Dowie, of scented memory, went "Zowie" (and "West") among distinctly non-apostolic surroundings.—R. I. P.

Not a single one of these items would be worth discussing, were it not for the fact that Voliva—Zip-Zip of Zion and Editor of *Leaves,*—either of his own free will or instigated thereto by "sinister influences," has been circulating from house to house, in the City of Chicago and elsewhere in said County of Cook, State of Illinois, copies of *Leaves of Healing* which contain very much offensive and entirely misleading matter touching upon and appertaining to the "dirty doctors" and their horrific habit of "going around putting their filthy rotten cowpox virus into the pure, sweet little children." Because this particular edition of *Leaves of Healing* is entirely devoted to vilification of the Doctor; because it states that the time has come to *"down the dirty doctors and drive vaccination back to hell where it came from,"* and because small boys are stepping to my door and your door and handing in this monstrous mélange of misinformation with the saintly salutation, "Peace be to all in this house," it seems desirable to breathe a few gently-worded protests, before people generally get the idea that we really are what—from a score of interested sources—we are being represented to be.

Concerted Attacks on Doctors

For some reason or other, these attacks are concerted and becoming decidedly concentrated, and one wonders who's paying the bill? Ordinary antivaccinationists we have had with us always and, if I remember rightly, Moses had to deal with just such individuals when he lifted up the Serpent in the Wilderness, that those who looked thereon might live. We don't object to these well-meaning but imperfectly informed bipeds—unless they become a menace to others; neither do we have any objection whatever to hearing "ex-surgeons," "noted authors," or even Smith, Brown and Jones, M.D., express the opinion that vaccination is tommy-rot and a procedure (in their opinion) to be unreservedly condemned. Indeed, if some of these intellectual and well-informed gentlemen (who probably never saw a case of mild, let alone confluent, smallpox) will explain why, before the days of vaccination, only five persons out of a hundred escaped the disease and fully a quarter of those who contracted it died, while those who recovered were mutilated or disgustingly scarred for life, whereas *now* we only observe isolated cases and can control each and every outbreak,—we shall be everlastingly indebted to them. Of course, in overturning our foolish belief in vaccination to prevent smallpox, they will have to destroy our equally fatuous faith in the possibility of producing active or passive immunity to such other decimating diseases as typhoid fever, diphtheria, anthrax, etc., etc. In fact, all they will have to do is, to produce convincing evidence that these diseases, together with yellow fever, bubonic plague, malaria, rabies and many others are merely "accidents" which cannot be controlled by scientists (many of whom have ungrudgingly given up their lives to establish the fact that *they can be controlled*), and we as a profession will say "Thank you," acknowledge our idiocy and—go right along fighting Death as we have fought him from the beginning!

You see, WE KNOW.—These gentlemen only *think* that they do. They *think* all right but, unfortunately, run into the ditch because they can't *steer* their thinkers. With such, I say again, we have no quarrel. We sympathize with their disability and pass on.

Our quarrel is with the men who causelessly vilify and shamelessly slander us. Those who paint us as putrid pariahs propagating dis-

ease that we may profit thereby. Those who lay dirty, profane and violent hands upon our Professional Honor and Personal Probity! Those who call aloud to everyone who can hear, "Don't trust the dirty doctor; he is an Abortionist, a Robber, a Mountebank and Infernal Fraud. He will keep you sick to make more money and, if you're not sick, he'll see to it that you are made so."

With such individuals we do have a quarrel; first, because we KNOW that, were it not for the herculean and heroic efforts of physicians, the human race would not be what it is today; and, secondly, because, being fairly clean, honest and red-blooded ourselves, we object to being slugged by simpletons, misrepresented by morons and lampooned by lunatics!

THEREFORE—though the space could perhaps be used to much better advantage— I reproduce herewith just two of the strikingly beautiful cartoons which appear in Voliva's (NOT Bolivar's, please!—he's an elephant and intelligent.) *Leaves of Healing*, published as aforesaid at Zion City, Lake County, Illinois. These, I have to confess, need no "diagram and description." They shout aloud just what Voliva intended them to howl. Observe, however, that poor M. Banks, M.D., has just one silver dollar over each eye—a total of *two dollars—the* amount he usually "peculates" for going around to someone's home and relieving suffering or routing the Grim Rider himself! Voliva hasn't practiced medicine, or he would realize that the average physician commits only *petty* larceny, and usually dies—though full of good works—with a mortgage on his house and another (of the chattel variety) on his old bus. Much better, from a financial standpoint, to be an "Apostle."—

"O Zion, in thy Golden Halls,
Where Saints and Elders dwell..."

has an appeal all right if you want what you want HERE. Of course, it would be indelicate in this connection to discuss the possibilities of the hereafter? One *may meet* Bolivar (I mean the Zip-Zip of Zion) and one may not. Anyhow, as that genial gentleman has consigned us all unreservedly to Sheol, I have an idea that we shall pass him going down as we go up. It frequently works that way. He has my best wishes for a speedy trip and a continuous display of the "Warmer Tomorrow" sign.

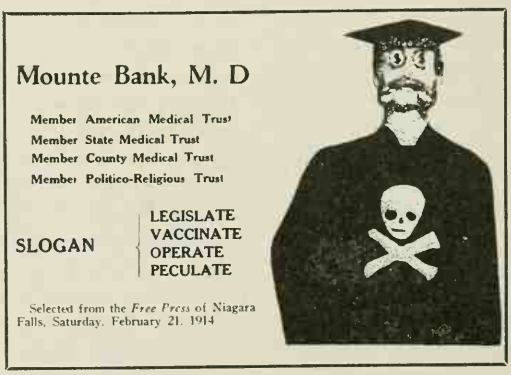
It is ten thousand pities that space cannot be given for a reproduction of the front page of this issue of *"Leaves."* Under an ornamental mortice containing the moderate insinuation:

VACCINATION

The Foulest of All the Foul Inventions of the Devil and the Dirty Doctors for the Creation and Spread of Disease, for the Debauching and Destruction of Humanity.

We are confronted by two reasonably well executed photographs of an unfortunate girl in the last stages of emaciation, and with her nose and frontal bones destroyed. This young woman, we are told, "was vaccinated when a child and thereafter became a mass of running sores. She visited the City of Zion a few years ago and has since died." It would be unkind to suggest that the visit to Voliva's semi-defunct hamlet and her subsequent demise had anything in common; but, that would be about as reasonable as to state didactically that *because* "she was vaccinated as a child, she became a mass of running sores and later died."

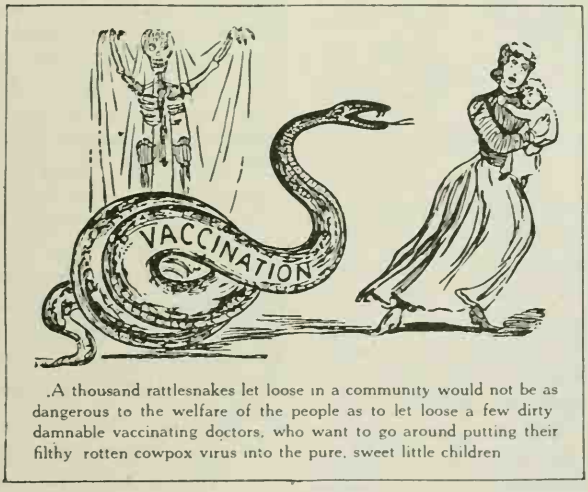
Moreover, even though the vaccination were proven to have been the cause of the poor girl's death, that does not detract one iota from the value of vaccination generally! It is sad but true that no war was ever won without more or less heavy loss of life. No new lands have ever been opened for settlement but the way has been marked by the bones of pioneers. No great edifice of steel has been erected but some worker has laid down his life in the building. No ship sails the main but could find a full new crew in Davy Jones' locker, and no curative measure known to mortal man but may prove lethal



upon occasion to certain individuals!

As Bolivar (pardon me, I mean *Voliva*) says, "She suffered the tortures of hell and was a sight that would melt a heart of stone." Undoubtedly, she did and was. I am quite sure that any and every doctor who was asked tried his utmost to assuage her agonies (whether he was paid for his efforts or not) and that the mere fact that they could not materially help her caused *them* "the tortures of hell" also. Unhappily, there are some diseases we are only just beginning to master and from the illustrations and a fairly wide clinical experience, I would say that this was a case of that kind. *How* it was contracted, I have no information.

This case—and many another like it—is, of course, sad beyond expression. But, it does not warrant the final paragraph of the caption, "*The Time Has Come to Down the Dirty Doctors and to Drive Vaccination Back to Hell Where It Came From.*" NOT, when we consider that the poor girl died some years ago and that today the preparation of vaccine virus has been so perfected that one may vaccinate thousands of individuals under proper conditions and never see even a sore arm. Merely the typical "seed pearl upon a rose leaf" with a resultant scar so small as to be negligible. Nevertheless, the *protection,* though not absolute (we do not claim to be Miracle Men), is so definite, so general, that eight out of ten ordinary physicians may practice for their lifetime and never even see a case of variola. And, if it does in some way enter a territory, general vaccination or revaccination renders the disease so mild that it becomes almost as innocuous as measles or whooping-cough to those who contract it and there is very little difficulty in preventing its spread in the community.



A thousand rattlesnakes let loose in a community would not be as dangerous to the welfare of the people as to let loose a few dirty damnable vaccinating doctors, who want to go around putting their filthy rotten cowpox virus into the pure, sweet little children

WE, of course, know all this and vaccinate ourselves and our families. But there is a great class of people in this and every country who are easily influenced, especially by what they read and see in illustrations and, to them, the FACTS are not known and they are quite apt to believe the Blaa and Buncombe they are bombarded with by Boneheads who think they *think,* but who really only succeed in having nightmares.

Buncombe Accusations

For instance, consider the brain capacity of the Simian who shrieks, "the Doctors vaccinate because they make money by it," "the Dirty Devils perpetuate Disease to profit thereby," and so forth, when, as a matter of fact, by vaccination, one of the most certain sources of profit to the physician was wiped off the face of the earth. Won't these cerebrally-constipated critics loosen up just long enough to realize that every time a physician vaccinates a patient for one or even two dollars, he puts away from himself the possible chance of treating for a prolonged period a case of smallpox? And, if some of these two-cent thinkers would try concentration for a few weeks, they might get the idea that the physician they revile and abuse may perhaps receive a hundred dollars a year from all his vaccinations—and he provides his own vaccine. He certainly makes nothing out of its manufacture. Moreover, any child can be vaccinated *free.* Very many of them are.

So, the "peculating physician" doing the work gets beastly rich. Indeed he does! So he does also when he stops an oncoming diphtheria with a "shot" of antitoxin. So he does when he urges his people to submit their children to the Schick test so that, if they prove non-immune to diphtheria, they may be made so by a few injections of toxin-antitoxin. Day by day, as a matter of FACT, the Doctor digs his own financial grave and, by practicing PREVENTIVE MEDICINE and teaching prophylaxis, serves his patients, even as Christ would have served—without thought of money or price.

That he must live and rear his family, he realizes, of course; and by unceasing work and the exercise of no mean skill and a keen intelligence, he just about manages to do so—unless he be one of those fortunate practicians who have on their list a great number of chronically indisposed persons who pay cheerfully for being permitted to tell their more or less heart-wringing woes (differing monthly) to the family physician. Under such circumstances, indeed, he *may* acquire a small surplus—which usually some business-like individual cheerfully takes away from him! The really well-to-do doctors I know can be counted upon the fingers of one hand. And they, in nearly every instance, made what money they do have *outside* their profession. On the other hand, I know scores, yes, *hundreds* of men who have faithfully and to the very best of their ability practiced medicine for decades and are still highly gratified if, at the end of the year, they have a three-figure balance at the bank!

Peculators? I'll say they are—of the peanut variety. Usually so ornery that they rob themselves and their offspring to help out someone else who has *three* times as much as they'll ever own!

Zion and the Late John Alexander

But, to return to Bolivar (Voliva, I should say, but I *will* confound him with the elephant), his *Leaves of Healing* and Zeistic Zion: For those who reside out of the Middle West, I might say that Zion is a sandy area, situated between Waukegan and Winthrop Harbor upon the shores of Lake Michigan, and some forty-five miles north of Chicago. The land was acquired and a peculiar community established thereon, some years ago, by one John Alexander Dowie. He was a gentleman with a somewhat variegated past and an idea. The idea paid. He founded the Christian Catholic Apostolic Church, and those who accepted his doctrines worked (and what money they had, worked also)—for John Alexander.

To see John in his Apostolic robes and hear him denounce the devils who lived outside of Zion, was something to be remembered. When he talked about Doctors, Pork and Tobacco, your hair fell out! Dowie hated the pig and his products worse than Rosenberg and Lavinsky ever did, and "the Doctor" and "the Devil" were to him but two names for the same thing. He flourished wonderfully upon his brand of Blaa and, soon, factories, banks, a big hotel (it is some whopper of a caravansary, now more or less occupied by memories) and a score of smaller industries dotted the landscape. Shiloh House, a pretentious edifice, sheltered the Apostle, his wife, some Myrmidons, and the celebrated "unkissed son." This debonnair youth (so his apostolic father proclaimed) reached his twenty-something year without having known the kiss of a female! John Alexander considered the latter "terrible creatures." Dowie Junior used to stand up on the platform and smirk at the mixed audience Dowie could always gather (because he was "so different" and bizarre) and with his eyes dare the devilish girls to touch his virgin lips. I never enjoyed the young man's confidence; so, cannot say whether or no any of them took the dare. But he wasn't such an awful looking simp and he probably got his—perhaps when he wasn't looking. After various extremely interesting blow-ups and endless suits of one kind and another (several being for the return of monies entrusted to his keeping by trusting females), John Alexander himself fell from grace, became hopelessly entangled with one of those never-to-be-sufficiently-abhorred women and died, not quite in the odor of sanctity. 'Twas a sore blow to Wilbur Glenn Voliva (I hit it that time), who had for long been his trusty first assistant; but he rallied nobly, took the Apostolic Mantle and the Helm and has been steering things through more or less turbulent seas ever since. Today, the industries (or most of them) in Zion are Wilbur's—or controlled by Wilbur. Witness the naive statement in *Leaves of Healing.*

"ZION INSTITUTIONS AND INDUSTRIES (Wilbur Glenn Voliva)"

Then follows the list.

Indeed, yes, Bolivar is some Elephant in Zion! Yet, there are rash residents who insist upon provoking—and even opposing—him. He puts up enormous signs and they tear 'em down. He appoints one chief of police and the rebels put in another. Generally speaking, Zion is not quite what it was—a fact that the whole state of Illinois is thankful for. Until the past year, for instance, the perfect road from this city to Milwaukee was broken only by a stretch of almost impassable morass constituting the main street of Zion. On entering and leaving the sacred soil, the autoist was confronted by huge hoardings warning him that he was in ZION where pigs, doctors, tobacco, etc., etc., were strictly taboo. On week days, if you broke your springs, the

Zion garage would fix you up for a price, but on the SABBATH, you could break down where and when you pleased (and you were more than apt to) without the slightest hope of getting more than a frozen stare from any Zionite. You had no business to *move* on that day. *They* didn't. Altogether, it was (and is) a cheerful spot—one you entered with regret and left (if you could get through) with great rejoicing—mixed with quite unwonted profanity.

Strange things have happened in Zion—even as they happen in the House of David, a perennial boil on poor Michigan's neck. But, W. G. keeps a stern hand upon the local publications and city reporters are frappéd in that region.

"Leaves of Healing"

From such a place, then, and from such an individual, comes the *Leaves of Healing*—supposedly a semi-religious sheet devoted to Zion Propaganda, and no one would have the slightest objection to its publication, provided that its columns did not contain vicious calumnies and the thing was not being carefully and systematically foisted upon perfectly normal people by small boys who approach the unsuspecting housewife or maid, who answers the door, with a "Peace be to this house," hand her the *Leaf* and then collect a nickel. Just how many thousand *Leaves* have been spread this way, I cannot say. This particular neighborhood has been supplied most efficiently—and, with Hearst and DeKruif, Keefer and the minor ruck of detractors working night and day shifts, the Doctor is beginning to feel a faint aura of suspicion surround him in places! The Propaganda from Chiro, Osteopath, Naturopath, Omnipath, *et hoc genus omme,* is vicious enough. However, as already stated, at this particular time, for some particular reason (which one may inquire into later), the ordinary Doctor (never before quite so well equipped to serve the public) is getting,—well, call it what you like, but that's what it is! And Bolivar's *Leaves* is about the most saturnine slur of all. If he's doing it here, someone else will be doing the same dirty work elsewhere—and, perhaps, with more *savoir faire,* so to speak.

I'm really sorry that I can't show everyone of you the score of other pretty pictures in *Leaves.* You'd enjoy them immensely. There are babies in caskets, men with huge sarcomas, a lady with elephantiasis, children almost obliterated, and woefully crippled and twisted men in uniforms of all kinds. ALL of them came to their sad estate from being vaccinated; some, years before, some, quite recently. Most of the "examples," however, seem to have lived in "Bloomin' Old Hingland, don't you know" and, if one may form a fair conclusion from what *Leaves* says, Leicester, England, must have had a lot of very careless Doctors, very poor vaccine, or a whole lot of unsuspected lues. Just which, who can tell? Of course, we know that the Brittishers *did* have a whale of an antivaccination fight on their hands some time ago. So, for that matter, have we, time and again. Moreover, some years since, the medical profession had the humiliation of finding itself using vaccine which was not what it should have been, by any means. But, *nous avons changé tout cela* and, today, the individual risk is so small as to be negligible, especially when proper precautions are taken.

Prevention of Smallpox

Rosenau ("Preventive Medicine and Hygiene," 1921.) opens his masterly work with this statement: "The prevention of smallpox depends primarily upon vaccination; secondarily upon isolation and disinfection. Vaccination was the first specific prophylactic measure given to man; it produces an active immunity to smallpox. On account of its importance and great practical value, this subject will be considered in some detail, for *much* of the *antivaccination sentiment is due to ignorance or misconstruction of the facts.*"

But, Bolivar (pardon again, Voliva) reproduces letters and statements from physicians of various degrees of dignity, to the effect that "there are only a fw doctors who believe that vaccination is beneficial or a preventive of smallpox." "Vaccination helps to spread smallpox." "Vaccination has stood for nearly one hundred years on three legs and is now fast tottering to a fall." "Vaccination is utterly useless," etc., etc., etc. *ad infinitum et ad nauseam.* "Ignorance" it would seem, or "misconstruction of the FACTS." And it is *facts* we need to present to the people whose welfare we hold in our hands. If space permitted, overwhelming evidence could be presented here that vaccination properly performed is practically devoid of danger and does protect the individual from smallpox for a period of years. Perhaps the claims which we are warranted in making could not be set forth more concisely than they are by Rosenau (loc. cit. p. 20).

Claims for Vaccination

1.—"Duly and efficiently performed, it will protect the constitution from subsequent at-

tacks of smallpox as much as that disease itself will.

2.—"It protects the individual against smallpox for a period which has not been determined mathematically for the individual, but which averages about seven years.

3.—"The protection may be renewed by a second vaccination.

4.—"Persons successfully vaccinated on two occasions are usually immune against smallpox for life.

5.—"Vaccination and revaccination systematically and generally carried out confer complete protection to a community or a nation. In other words, while the individual protection is not always lasting, the communal protection is absolute.

6.—"A person vaccinated once, and at a later time contracting smallpox, as a rule has the disease in a less serious form than unvaccinated persons (varioloid). The degree of favorable modification of smallpox is in inverse proportion to the period of time elapsing between the vaccination and the attack of smallpox.

7.—"The beneficial effects of vaccination are most pronounced in those in whom the vaccine affection has run its most typical and perfect course."

In speaking of the dangers and complications connected with the procedure, Rosenau states:

Dangers From Vaccination Very Slight

"The alleged danger from vaccination has been greatly magnified by the antivaccinationists. However, vaccination is not always a harmless procedure; it must be looked upon as the production of an acute infectious disease, and, although the disease is always mild and benign, it must not be treated as trifling. The chief danger lies in the fact that we have produced an open wound which is subject to the complications of any wound. Even a pin prick or a razor scratch may result in death. While the aggregate number of deaths resulting from the complications of vaccination were considerable, the individual risk is now so small as to be disregarded, especially when proper precautions are taken. Many of the infections after vaccination occur in those in whom the regard for cleanliness is slight and who neglect the care of the wound. In recent years, owing to the improved quality of the vaccine virus and the introduction of aseptic methods, a bad sore arm is a rare occurrence, and serious complications still rarer. *The danger connected with vaccination is infinitesimal when compared with the benefit conferred.*"

And further:

"As an illustration of how seldom complications are caused by vaccination, we have the results of Germany where, in thirteen years (1885-1898), 32,166,619 children were vaccinated. Of these, 115 died within a few weeks or months after the operation, presumably of injuries incidental thereto. Of these, at least 48 probably did not die as a direct result of the vaccination.

"The figures of recent years are still better; for, it is now exceedingly rare for a death to be recorded as directly due to vaccination.

"Ten million vaccinations in the Philippine Islands were done under the direction of American health authorities without the loss of life or limb. Of the millions of vaccinations done in the army and navy during the World War, there is not a single record of serious result. This clearly indicates that, with the use of a carefully tested virus and efficient technic, the danger is *nil.*"

Which is enough in this particular place to prove the absolute idiocy of the antivaccinationists' attacks—if such proof were needed by any well-read, thinking medical man of the present day. BUT, even a course of intensive study of the subject could not make Bolivars, who hate Doctors and all their works, record a rational opinion on the subject, neither could it make men of this type realize the fact that hundreds of thousands of men, women and children dead from smallpox and an army equally as large surviving but ghastly disfigured would be more heart-rending than the few hundred victims of faulty vaccination! And most certainly nothing but entire reconstruction could make these slanderers of the doctor cease from seeing nothing but evil where only good is and imputing the vilest of motives to the most self-sacrificing *Service*-giver upon earth!

To limit their baneful activities, it would appear, we must drop the dignified mantle of reserve we have wrapped about ourselves and talk FACTS to those who are being fed upon fallacies and falsehoods.

A chain, Keeper, upon Bolivar's foot; he's "going bad!"

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from February Issue, p. 139*]

Asparagin

Glucoside from Asparagus officinalis, also found in the leaves of belladonna, great comfrey root, marshmallow, and it has been detected in liquorice root.

Physiological effects:—In small doses, it augments the urinary secretions and abates irritability of the urinary organs. It has been credited with aphrodisiac and emmenagog properties.

Crude asparagus sometimes causes urethral discharge like that of gonorrhea. The writer had the good fortune to prevent the suicide of a friend, who had indulged in fresh asparagus tips washed down with copious draughts of beer and who, some hours after, was told by his physician that he had a bad case. I was in time to assure him that his physician was unintentionally wrong, and saved the day. We afterwards had a three-sided consultation when his Doctor learned, for the first time, the sometime untoward effects of asparagus.

Therapeutics:—Asparagin has proved beneficial in cystitis and in some renal diseases, in the hands of the writer and some others, but its true place in medicine is yet to be determined.

Dosage:—1/64 grain at half-hour intervals, with water taken freely.

Aspidospermine

An alkaloid from Aspidosperma quebracho.

Physiological effects:—This alkaloid is a stomachic; promotes the appetite and aids digestion. It diffuses promptly into the blood, lowers cardiac action, renders the pulse less frequent, elevates, at first, the arterial tension and blood pressure and then lowers them.

The respiration is slowed and the sense of need of air is less impressive, at the same time the temperature is lowered. The hurry of circulation and of respiration, and the feeling of oppression due to active exercise are modified by its use. In large doses, it is a respiratory poison.

Therapeutics:—It is indicated in atonic dyspepsia; its more important use is in the dyspnea of asthma, emphysema and other respiratory maladies. It has proved of value in every form of dyspnea: bronchial, cardiac, nervous, even in that of uremic origin, (Wood), as well as in spasmodic croup.

Dosage:—1/64 grain, repeated every fifteen minutes to effect in acute cases; 1/32 grain every three or four hours in chronic cases.

Doctor Waugh said of aspidospermine: "If the physician is not going to delve deeply into the active principles of quebracho, he would best content himself with two things, and should so fix them in his mind that they will stick forever. (1) Never use the extract under any circumstances if the alkaloids are obtainable; (2) always use aspidospermine to the exclusion of the others and learn how to use it right, remembering that it relaxes spasm, stimulates the breathing mechanism and slows and steadies the heart, effects desired in all cases of dyspnea. Give it right, and you will not be disappointed."

Aspidospermine Sulphate

The same physiological and therapeutic remarks apply as given under the alkaloid, the salt being more readily soluble and consequently quicker in action. Dosage; the same as the alkaloid.

Atropine

The principal alkaloid from the root of the Atropa belladonna.

Physiological effects: — Dryness of the mucous membrane of the nose, mouth, throat and larynx is produced by the direct application of atropine to these parts, and the same effects in a more positive manner follow the stomachic or hypodermic administration. Dryness of the gastrointestinal canal is also produced, but it is soon followed by increased secretion and peristalsis, as shown by the fluid condition of the stools and by their frequency.

Atropine in small doses increases the heart action and the number of beats, raises the arterial tension, stimulates respiration and raises the temperature. In persons of light

complexion, more especially in women, a full dose of atropine is frequently followed by a diffused redness of the skin, not unlike the rash of scarlatina, but lacking the punctated character of this eruption. At the same time, there is an increased redness of the fauces with some difficulty in deglutition from dryness, rendering the similitude to scarlatina more striking. Dilatation of the pupil is a conspicuous effect of atropine, whether dropped into the eye, ingested or used hypodermically. Direct application to the eye produces more prompt effects with a smaller dose. Both, the motor nerve trunks and the terminals, are depressed or paralyzed by this alkaloid and the function of the sensory nerves is impaired.

Therapeutics:—Useful in tetanus, hydrophobia, internal strangulations, gastralgia and the neuroses: hysteria, chorea and epilepsy. Also useful in accouchements, to facilitate labor by dilating the os uteri and regulating the contractions of its body. In ptyalism, night sweats and incontinence of urine, atropine has an efficient action. It is also a valuable hemostatic by its action of driving the blood into the peripheral capillaries.

The delirium produced by this drug is of a transient character, and yields to its discontinuance.

Dosage:—1/250 grain every thirty minutes in acute cases. In subacute or chronic cases, the same dose every one, two or three hours, according to the necessity of the case and tolerance of the patient to the drug. It is relatively better borne by children than by old people.

Doctor Waugh said of atropine: "Of all the remarkable agents in the wonderful alkalometric armamentarium, none is of greater interest than atropine. The more the science of drug-action is studied, the greater is the tendency to lift this alkaloid into the place heretofore occupied by morphine, a monarch who has forfeited his crown by bad behavior."

Atropine Sulphate

The physiology, therapy and dosage of this drug are the same as those for the alkaloid. It is used more by reason of its quicker action.

Atropine Valerate

Physiology same as the alkaloid.

Therapeutics:—Chiefly indicated in deep congestions with general irritation and with internal hemmorhage; or in serious flux, as in cholera infantum, its action bringing the blood to the skin and the underlying structures, congesting the surface capillaries.

Dosage:—1/250 grain every half hour until effect.

Avenin

Albuminoid from the Avena sativa.

Physiological effects:—Stimulant and tonic, with slight sedative action on the reproductive organs.

Therapeutics:—Useful in relieving sexual passion, although not so effective as monobromated camphor. Spasmodic and nervous disorders, cardiac weakness, spermatorrhea and tensive articular swellings are relieved by its use.

Dosage:—1/6 to 1 grain several times daily to effect. One grain in a glass of hot water will be followed by a sound sleep and a sense of rest and strength next morning.

Benzoic Acid

Obtained from gum benzoin by sublimation. Also obtained from less pleasant sources.

Physiological effects: — Possesses decided antiseptic and deodorant properties; arrests fermentation and putrefactive decomposition and is destructive to microorganisms, bacteria, vibrios, etc. Applied to wounds, it is free from irritating effects; it lessens suppuration and prevents decomposition.

Therapeutics:—Useful in catarrhal inflammation of the mouth and throat. The powder, dusted over the nail in onychia, or packed into the ear in suppuration in these organs, gives good results. The use of benzoic acid in catarrhal conditions of the urinary tract, in cystitis and non-specific urethritis, is strongly recommended. Also useful to reduce *ardor urinae* and general acidity in rheumatic diatheses.

Dosage:—1/6 to 1 grain every half to two or three hours as indicated.

Berberine

Is widely diffused in the plant world, but is obtained principally from Hydrastis canadensis.

Physiological effects: It exerts a special influence upon the spleen. It is a general tonic to the mucosa, improving secretion. An excellent stomachic and gentle laxative.

Therapeutics:—Useful in malarial enlargement of the spleen. It has a specific action on the aphthous sore mouth of infants.

Dosage:—1/6 to 1 grain, every half to two or three hours as indicated; in solution, applied directly in aphthous condition of the mouth.

Berberine Hydrochloride

A salt of berberine. Physiological effects and therapeutics the same as in the alkaloid. Dosage is the same.

Bilein

A scientific mixture of the alkaline salts of the bile acids as found in oxgall.

Physiological effects:—Produces prompt action in increasing the excretion of abnormal bile. It acts as a stimulant to the hepatic cells, causing an immediate increase of normal bile. As a result, putrefaction of the contents of the intestines is prevented and peristalsis increased.

Therapeutics:—As bilein is a solvent of cholesterin, it is of service in cholelithiasis and should be combined with sodium succinate in this affection. The writer has met with good success in treating hepatic colic with this combination, after the spasm had been controlled.

Dosage:—1/12 to 1 grain, three times daily after meals. A morning saline is always indicated.

Bismuth Subgallate

Physiological effects:—Antiseptic, astringent and sedative to mucous surfaces.

Therapeutics:—Useful in intestinal catarrh, dysentery, gastric ulcers, subacute gastric disorders and in mild forms of infantile gastritis and diarrhea.

Dosage:—1 to 5 grains every four hours for adults; children in proportion. May be profitably combined with the sulphocarbolates.

Bismuth Subnitrate

Physiological effects: — Absorbent antispasmodic and disinfectant of the gastrointestinal tract; a sedative of the mucous membranes; a soothing application to inflamed or abraded skin, exerting its slightly astringent property.

Therapeutics:—Useful in dyspepsia, chronic diarrhea of children and offensive eructations. Topically, in the form of the oleate, in all cutaneous affections accompanied by ulcerations or abrasions, with a sense of heat, burning or itching.

Dosage:—1 to 5 grains as indicated.

Boldine

The active principle of Peumus boldus.

Physiological effects:—Increases elimination of urinary solids and the secretion of bile. It increases appetite and the digestion as well, showing a specific action on the liver. It has been found that it notably increased urea elimination, and especially the bile excretion, without affecting the circulation, the temperature, or the quantity of urine. This gives to boldine the character of a true hepatic stimulant.

Therapeutics:—Useful in jaundice, hepatic colic, chronic hepatitis, appendicitis. It is in fact a specific in all hepatic maladies, even for cirrhosis. It is also of value in some forms of kidney diseases where there is a deficiency in the excretion of solids.

Dosage:—1/64 to 1/6 grain, the smaller dose given in free draughts of water every three or four hours, the larger dose may be given three times daily before meals, combined with sodium succinate when used for gall-stone.

Boracic Acid

Is a mild antiseptic but little used for internal administration, valuable as a dressing for superficial wounds.

Brucine

One of the alkaloids found in Nux vomica and in the Ignatia bean.

Physiological effects:—Checks oxidation of the blood and the excretion of carbonic acid; greatly increases reflex excitability; causes tetanic convulsions; and acts as a stimulant to the respiratory center, making the respirations deeper and quicker and causes the lungs to do more work. (Brunton)

Brucine is described by some as only a mild form of strychnine and completely represents it in small doses.

Therapeutics:—A splendid tonic for children and may be given freely to effect. While its tonic effects are identical with those of strychnine, the less toxic properties render it more safe with young patients.

Dosage:—1/128 to 1/64 grain every four hours may be administered to children of 12 years, with the smaller dose to younger subjects and increased according to age to meet conditions.

Brucine Hydrochloride

The physiology, therapeutics and dosage same as those of the alkaloid.

Bryonin

A glucoside from Bryonia alba.

Physiological effects:—A powerful hydragog cathartic. It also acts upon the kidneys, increasing their secretion. In large doses, it provokes gastrointestinal irritation.

Therapeutics:—Useful in atonic conditions of the liver, in dropsical effusions, pleuritis with effusion, pericarditis, pleuropneumonia and in stiff and painful joints from rheumatism. For convulsions due to intestinal worms, in scarlet fever to prevent ear complications, chronic orchitis, fevers and to relieve constipation.

Dosage:—1/64 grain every fifteen to thirty minutes in acute cases to effect; then one every two hours to maintain it.

Butyl Chloral Hydrate

(Croton Chloral)

Physiological effects:—Analgesic to the head with special influence on the trigeminal nerve. The reflex irritability of the limbs remains

intact for some time after it has been abolished in the head. Respiration and pulse are unaffected.

Therapeutics: — Useful in hyperesthesia, neuralgia, especially of the fifth pair, reflex excitability, myelitis, nervous cough, and for the relief of toothache. In addition to its analgesic effects, it is a valuable hypnotic for children. Effective in whooping cough.

Dosage:—1/6 to 1 grain, as a hypnotic, 2 to 3 grains, repeated every hour (if necessary) to effect. As an analgesic, 1 to 2 grains every half hour until effect.

Cactin

While originally classed as a concentration, it would appear that this depends, for its virtues, upon the alkaloid, Cactine, (Merck). At all events, it is properly the result of the evaporated expressed juice of Cactus grandiflorus. Cactoid (Abbott).

Physiological effects:—Acts more upon the sympathetic nerve plexus of the heart than upon the cardiac muscle. Does not increase the degree of ventricular or auricular contractions. Its office is, to act essentially as a regulator of the functionally disturbed work of the organ. (Waugh)

If the blood pressure is high, owing to vasomotor spasm, it slows and increases the amplitude of the heart's beat by lowering tension; whereas, if the reverse condition obtains, it restores normal circulatory tone, by improving cardiac innervation. (Abbott).

Therapeutics:—It is indicated in functional disorders where there is "fluttering" or a sense of constriction. It controls palpitation and cardiac distress of many forms of neurasthenia. The writer has used it with success in "tobacco heart" and other irregular action of the heart. It often prevents car-sickness and seasickness.

May be used to advantage in connection with strychnine.

Dosage:—1/64 grain, repeated every fifteen minutes until the effect desired is obtained. For prolonged administration, 1/64 grain four times daily. Is absorbed readily through the mucous membrane and may be placed under the tongue for prompt effect.

Caffeine

Alkaloid from Caffea arabica, Thea sinensis, Theobroma cacao, Paullinia sorbilis, Ilex paraguayensis, Cola acuminata and Ilex cassine. Obtained from such a variety of sources, this alkaloid is believed to be identical in action as well as isomeric. However, clinical experience has demonstrated that Guaranine, from Paullinia sorbilis, is by far superior in certain affections to the isomeric alkaloids from other derivations. This is probably due to some difference in molecular arrangement.

Physiological effects:—It is the most nitrogenous of all the alkaloids. A stomachic and slightly laxative. Upon the nervous and muscular system, caffeine acts as an excitant.

It acts upon the vasomotor centers, causing slowing of the heart, while it increases the force of the strokes, raises arterial tension, and lowers peripheral temperature. The renal secretion is increased.

Large doses paralyze the peripheral nerves of sensation, and increase reflex sensibility of the cord.

Therapeutics:—Useful in congestive conditions of the brain, in coma, vertigo, hemicrania and in cardiac affections, with weak and irregular action.

Dosage:—1/6 grain to 1 grain every hour to effect.

Caffeine Benzoate

Same physiological and therapeutics as the alkaloid.

Dosage:—1/6 to 1 grain every two to four hours.

Caffeine Citrate

Used for the same purposes as caffeine, and in the same dose.

Caffeine Valerate

Physiological effects:—Analogous to caffeine, but a more potent antispasmodic.

Therapeutics:—Especially indicated when the nervous system is highly disturbed, as in shock from any cause other than surgical.

Calcium Iodized

Calx iodata, Calcidin. (Abbott).

Contains 15 percent of available iodine with 85 percent lime, starch and water.

Physiological effects:—While calcium is a valuable reconstructive, it serves here mainly as a vehicle for the iodine to which is due the peculiar therapeutic activity of the drug. The remedial power of iodine is, to stimulate the absorbent vessels of the body, which have become pathologically impaired, or which are normally unable to dispose of the adventitious matter which is not inherent in the body.

Iodine cannot be used internally, even in medicinal doses, for any length of time without producing untoward effects in the skin, nose, throat and eyes.

Children, however, are less affected, they being more tolerant of the drug, and they become more and more so under treatment when it is given in the form of an iodide, and above all, when it is given in the form

of iodized lime. Iodized lime does not often produce iodism even when given in maximum doses and for a prolonged period.

Therapeutics:—Croup, that scourge of infancy and childhood, when it is merely spasmodic, can usually be overcome with calcium iodized. However, the antispasmodics, aconitine, hyoscyamine, and apormorphine are also indicated as alternates, for the reason that the diagnosis cannot always be made between the true and false forms of croup.

It may not be easy to distinguish between a diphtheritic and a simple croupous membrane; and, while we cannot be sure of the efficiency of this remedy in the former, because we have a specific toxin to deal with, we are sure of it in the latter. Calcium iodized properly and persistently administered will rarely disappoint, and most frequently surprises the physician by the rapidity of its action.

It is important that no error in diagnosis be made, if positive results are to be obtained from the remedy; for, while it is certain to cure spasmodic or membranous croup in which it is promptly used, it possesses, alone, no curative virtues in diphtheria.

This drug is also of value as an absorbent in uterine fibroids, when given in small doses three or four times daily during a long period, even for one year. It is also a calmative remedy for dyspnea arising at night, especially from some heart affection; also the dyspnea of tuberculosis and that of asthma, where it is one of the best remedies in use. It is also useful in syphilis, where its action is much quicker than that of potassium iodide.

To sum up its uses, the physician has an efficient weapon against croup, both spasmodic and membranous, where it is practically specific; an efficient and reliable agent in most bronchial affections, through its alterative influence.

In dyspnea (whether due to pulmonary or cardiac disturbance) it proves of prompt service, as it does in asthma.

It rapidly causes a reduction and gradual absorption of fibroids of the uterus.

It is probably the most rapid and effective remedy for coryza.

It enables the practitioner to administer iodine in large quantities for a longer time without causing unpleasant systemic effects.

In goiter and all glandular disease, calcium iodized with nuclein will prove the most efficient means of relief.

Dosage:—1/3 to 5 grains. The small dosage is intended for long continued use as well as acute necessities. For croup, in children, five or six 1/3-grain granules or tablets are dissolved in six teaspoonfuls of water and a teaspoonful is administered every ten or fifteen minutes to effect.

In subacute cases, or as a reconstructive alterant, 2 to 5 grains, every three or four hours, always to effect. In croup or influenza, where the symptoms are urgent, 1/3 to 1 grain in freshly made hot solution as above. Where prompt saturation of the system is desirable, as in syphilis, 5 to 10 grains or more every four hours. (Abbott).

Calcium Hypophosphite

This salt is essentially a reconstructive and is indicated where a tissue builder is required, especially in delicate, marasmic or rachitic children. Given in combination with nuclein and iron. In phthisis, scrofula, etc., the hypophosphites are always of service. They hasten bony union in fractures. They are useful in dental caries of growing children and, to nursing women, calcium hypophosphite may be given advantageously.

Dosage:—1/6 to 1 grain three times daily for adults; for children in proportion.

[*Concluded from page 208*]

ress that this profession has made. The progress is ours only if we make it our personal property, if we, individually, live up to it; if we do our darndest to apply all the knowledge, all the information, all the discoveries, in so far as they may enable us to benefit our patients.

Again: The physician should be neat and clean and look prosperous. He should be "manicured," as the Doctor has it. That is not dandyism. It is a proper deference to the desire of our clients to deal with personally and mentally clean medical men. The "manicuring" might be applied in every direction. It would do no harm.

In the last instance, we bet on the general practitioner, every time. Let him realize that he has gotten into a rut, and he will shake himself out of it. He is a mighty good doctor, is that general practitioner. Make no mistake about that. We know him, and we know what we are talking about.—Ed.

PLACENTA PRÆVIA CENTRALIS

On January 3rd, 1923, I was called at 2 a. m. to attend Mrs. H., aged 28, multipara 3. Her first two labors had been normal, with uneventful recovery.

As she lived twenty-six miles from my resi-

dence, and the snow was so deep that I could drive my car only half way, it was 4:30 a. m. before my arrival there.

I found Mrs. H. lying in a pool of blood. She was extremely pale, breathing rapidly, and complained of feeling very faint. I felt for the radial pulse and could barely get it. I examined the abdomen and found the fetal head high up and to the right side, with the placenta occupying the whole lower uterine segment. The bleeding was profuse. I could find no fetal heart sounds after a rapid examination and so concluded that the child was dead or nearly so, and decided to disregard it.

Now, we come to the interesting part of this case and to what really prompted me to report it; and that is: the difficulties under which I had to handle this case. I was twenty-six miles from the nearest doctor, had as my assistant an old lady who was afraid of the case and, in her excitement, had not even got any boiled water ready for me. There were two things for me to do at once. (1) Stop the hemorrhage and (2) give a saline. I had no sterile water ready, so I decided to do a Braxton-Hicks version and stop the bleeding. After washing up, I inserted my right hand into the vagina and found an os dilated to about four fingers, with the placenta completely covering the internal os and adherent all around it. I broke through the placenta and with the aid of my left hand on the abdomen, I did a version, bringing the half breech down. Traction on the breech lessened the bleeding considerably but did not stop it.

As yet there was no saline ready and my patient half dead. I gave strychnine 1/30 gr., and again 1/30 gr. five minutes later. This revived my patient. I brought down the other foot after dilating the os manually and delivered the child without any trouble, dead. I separated the placenta and brought it away.

Then I gave an ampule of P. D.'s ergot, which contracted the uterus down firmly and stopped the bleeding. I now prepared my saline and injected it under the breasts until my patient had so far revived that I considered her out of danger for the time being. It was not twenty-five minutes past five and I consider that I made fairly good time handling this case alone.

I remained with Mrs. H. until that afternoon and she felt fairly good, outside of feeling faint every hour or so. I sent a nurse down that evening, and she brought Mrs. H. through an uneventful puerperium.

Mrs. H. was put on elastic capsules of Blaud's mass, and her anemia gradually disappeared.

In conclusion, I may say that many of my brother physicians may not have handled this case just as I did. But, how else could one handle it, working under the difficulties that we work under in some parts of our Canadian West?

Star City, Sask. C. H. Carruthers.

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[Doctor Carruthers is to be congratulated on his success in this particular case! He thinks that some of his brother physicians might not have handled this case just as he did. Still, he qualifies that correctly by asking, how else could one handle it under the difficulties attending his emergency?

If this case had been in the city—it would never have happened. What we mean is, that the condition should have been recognized very early, the woman would have been taken to the hospital at once, suitable attention would have been given and, in all probability, the baby could have been saved. That, though, is not the question at all. The point at issue is that, being twenty-five miles away from any help, having not even intelligent lay assistance, the doctor succeeded in saving this woman's life when it had all but escaped. The loss of the baby, was quite unavoidable. The management of the case, after the condition had been diagnosed, was perfectly correct. The indications were, to deliver. Doctor Carruthers delivered in the quickest and easiest way possible. There simply was no other way.

Placenta prævia is one of the awful things that happen to doctors occasionally. We shall never forget the one experience of this kind that we witnessed, over thirty years ago. The result was the same as the one in the case before us. It is fortunate that these emergencies are not frequent.—Ed.]

CONAN DOYLE—THE SPIRITS—THE BIBLE

In the April (1922) issue of your Journal, I notice that you say "If the doctors' wives desire space in Clinical Medicine, let them say so." Being a doctor's wife and an interested reader of your splendid Journal, I am herein kindly asking for space to reply to two recent articles in your May and July (1922) issues, by Drs. Bryce and Candler, their articles headed respectively. "Communications from the Spirit World" and "In Re: Conan Doyle and the Spirits."

I have read these two articles very carefully. As a consecrated Christian and having read and studied God's Holy Word almost daily for the past 12 years, I feel constrained to point out the many errors and delusions contained in the first of these two articles (by Dr. Bryce). Not that I desire to offend the Doctor, but solely that I may be of some aid in helping him understand the *cause* of the misleading experiences he seems to be laboring under, which he so pathetically described in your issue. I do not deny or doubt that he had such experiences; but I am sure that he doesn't at all realize or suspect the channel through which they came to him. And this is just why I desire to come to his aid and use God's Word to help him see wherein he has been so misled by what he terms "phenomena."

In the first place, I wish to congratulate Dr. Candler on his sane views on spiritism; as, all through his article he "hit the nail on the head" in his exposition of what has become a dreadful wave over the whole earth, deceiving millions, giving them the false idea that the dead can communicate with the living and vice versa.

I was much amused by Dr. Candler's satire on spiritualism, under the caption of "Good Medicine." I perceive that he takes the matter up from the material standpoint, and I take it that, like most good doctors, he is too busy in the matters that pertain to his chosen profession to make a close study of the Bible and, therefore, depends very largely for scriptural knowledge upon what he has heard from the pulpits from time to time. One gets very little light on the subject of spiritism, mental telepathy, etc., from what is heard in the modern churches for, in our day, the preachers do not attempt to explain the deep things or difficult parts of the Scriptures—which accounts for general ignorance of spiritualism and the power back of it.

I gather from the Doctor's remarks that he really thinks that all these spiritualists are deceived by mediums and do not really get any communications from the spirit world. Herein *he* is deceived, for the Bible makes plain that there is a reality in spiritualism, but No Good in it! While people are deceived into thinking they are talking to their dead friends and loved ones, they are in reality talking with evil spirits who impersonate the dead, using the mediums to this end, as was the case with the Witch of Endor, used by the fallen angels to impersonate Samuel, who was dead, thus deceiving Saul, and which was displeasing to the Lord.

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Almost the whole world is being deceived today through mediums, table rappings, planchette and ouija boards and other demonistic contrivances. The mediums are often just as much deceived as their patrons. I should like to bring to the attention of the doctors in question, and of your other readers as well, what I find taught by the Bible on this matter, and will be as brief as possible and yet make the matter plain.

Surely, every true Christian will be willing to accept what the Bible has to say on any matter and especially on matters admitted by all to be difficult for the human mind to grasp. St. Paul declares, "He that is spiritual discerneth all things." Therefore, if there is any understanding of this matter set forth in the Bible, the earnest student should be able to find and understand it. Anyone who is acquainted with the Bible teaching respecting the condition of the dead knows that it is impossible for the living to communicate with the dead or for the dead to communicate with the living. The Bible most emphatically declares, "The dead know not anything," also, "The very day a man dies his thoughts perish"; they "return to the dust" and, so far as their death is concerned, they die just like the brute beasts and, while dead, they "sleep in the dust of the earth."

Of course, so long as we refuse to accept these plain declarations of the Scriptures and prefer to believe the Platonian theory that the dead are more alive when dead than they were when alive, we shall never get the truth as to spiritism, and are continually in position to be deceived by it. To be sure, if our dead friends were *not* dead, but alive in some spirit world, as most of the creeds teach and most professed Christians believe, they would naturally want to communicate with their friends this side the veil, and there would be much ground for believing in spiritism and for wondering, as the Doctor says, "why we do not hear more from them and in a more informative and intelligent manner." But, when we accept without quibble the plain statement of God's Word, we put ourselves beyond being deceived in the matter and in a position where we may ascertain the truth.

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Down in the Garden of Eden, when Satan tempted our first parents, we have the first ground for spiritism. God told Adam, if he sinned (disobeyed Him) he should *die* (lose

his life); Satan came along and denied it, telling mother Eve, "Ye shall not surely die," which is the foundation for the theory that the dead are not surely dead, but alive in some other state; and here is also the foundation for "talking with the dead." Ever since that time, our old enemy, Satan, has been trying to keep alive that lie told to mother Eve, and he has not only used "mediums" but also many professed ministers of the Gospel to deceive the people into thinking that our dead are not really dead. In our day especially, the vast majority of professed Christians have been taught that merely the body dies, but the soul is immortal (proof against death) and continues to live. Right here, I challenge anyone, preacher or layman, to produce any other scripture, except Satan's statement, to indicate that the human soul was or is immortal, or that the dead were alive anywhere, or that they either went to heaven or any other condition of life before the resurrection.

The closing paragraph of Dr. Bryce's article really gives the foundation for all this belief in spirit communication. The Doctor says, "I believe our souls are immortal." It seems passing strange that, in the face of the scriptural declaration that "The king of kings *alone* hath immortality" (1 Tim. 6:15, 16), anyone who makes the claim of believing the Bible to be the word of God could say "I believe our souls are immortal"! Stranger still that *doctors* who profess to believe the Bible should so say! Immortal means *death-proof,* and the Bible repeatedly declares that the *soul dies.* It even says that Jesus' soul died—"He poured out His soul into death" (Isa. 53:12). St. Paul declares *"All* have *sinned"* (Jesus excepted), and the plain statement of the Scriptures is, "The *soul* that *sinneth,* it shall die." Although Satan said, when speaking to Eve in the Garden of Eden, "Ye shall not surely die," why should we prefer to believe Satan's lie on the subject rather than the repeated declarations of the Scriptures that there is no difference in the death of men and the death of beasts? The difference lies in the fact that, because our Lord "poured out His soul into death" for our deliverance, there is to be a resurrection of dead human souls, but not of dead animal souls (for the Bible speaks of the animals as souls but of a lower order than man). Again, St. Paul says that even the *Christian* is *perished* unless Jesus keeps His promise to awaken and resurrect them (1 Cor. 15:16-18).

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St. Paul declares the Scriptures to be sufficient to thoroughly inform the man of God (the Christian), and when we come to the word of God with unbiased minds, we find a reasonable, logical, proper and satisfactory answer as to what the soul is. In Gen. 2:7, we are plainly told that the combination of the body and breath constitutes the soul (sentient being). The body God created was not by itself a soul, neither was the breath with which he animated that body a soul, but the combination of the two, body and breath, makes a soul, and thus Adam "became a living (breathing) soul," as does every child and every lower animal that is born alive into the world. They *become* living souls, but do not *have* souls separate from their bodies. Therefore, it should be plain to anyone, and especially to doctors, that separating these two elements would destroy the soul. In His own due time, our Lord Jesus will *resurrect the soul,* giving it a new body, to "every seed (character) its own body" (1 Cor. 15-38) or being. In no place in the Bible is it even hinted that it is His intention to resurrect the body and, surely, any Christian doctor will agree with St. Paul that it is foolishness to think of the resurrection of the body that dies (1 Cor. 15:35-37)!

As to immortality, the Bible holds this to be the "Crown of Life" (the Divine nature), which only the Christian is invited to "seek" and "put on" during the Gospel age, and he must die to inherit it—"Be thou faithful unto death, and I will give thee a crown of life"—immortality. Rev. 2:10.

Doctors, who know all about the makeup of the human body, and who have never discovered the "soul" or seen anything to indicate the whereabouts of it, and who agree with Dr. Candler that we do our thinking with our brains, our seeing with our eyes, our hearing with our ears and "when we (as he says) see all the wonderful conglomeration of fluids and tissues through which we here move and have our being, die and are resolved into the elements, and that all the countless impressions we received during life perish as our cells cease to function"—are inclined to become unbelievers in Christianity because they have been taught to believe that the Bible teaches the manifest absurdity that we shall continue to think, feel, hear, talk, etc., after all our apparatus for thinking, feeling, hearing, talking, etc., are resolved into the elements, or, as the Scriptures put it, "Returned unto the dust." Therefore, it is not surprising that the honest among them, like Dr. Candler, would say, "The persistence of ourselves after

death savors to me of the child's faith in faries and fairyland."

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But, now, let us see what power is really back of spiritualism, and with whom do these mediums talk if not with their dead friends. For, there is no disputing the fact that they (the mediums) do communicate with beings who are not in material bodies, although most of these messages are "cheerfully vague" and "decidedly of no real importance," as the Doctor states. These messages *do* come from the spirit world, but *not* from the spirits of dead *humans,* but from *angels,* who, one time holy, left their condition of holiness and became *demons,* who have since delighted to get possession of the living on earth by obsessing and overthrowing their wills. Many of the inmates of insane asylums are thus possessed of demons. Our Lord, at His first advent, cast demons out of many. Today, thousands are thus afflicted. In Genesis it is recorded how the angels took the form of men and married wives of the children of men, and the result of this union was a race of giants (hybrids) call *nephilim* (fallen ones), and these filled the earth with violence. At the time of the flood, these were destroyed as men; that is, their assumed human bodies were destroyed and they were no longer permitted to materialize as human beings, or to return to heaven, their "first estate" (Jude, 6th verse), but restrained in our atmosphere, where they and Satan have been ever since and are now. In 2 Peter 2:4, the King James' translation says, they were "cast down to hell," but the word here translated "hell" is, in the Greek, *Tartaros,* which means the atmosphere (see Strong's or Young's, or any complete Concordance).[1]

We have plenty of scriptural proof of how these evil spirits had possession of people in Jesus' day, and some were relieved of these evil ones by Him. Today we have many thousands in lunatic-asylums and a good many not yet in the asylums, who are possessed by these evil spirits that gradually get possession of the wills. The Bible strongly warns the Christian to have nothing to do with occultism in any manner (Isa. 8:19, etc.), and also foretold that much of the evils of these last days is because of the evil influence of these "lying spirits" upon the minds of men. As it was in the days of Noah (just prior to the flood), so it shall be (again) in the days of the Son of Man, and so it is today; the whole world is full of crime and violence, daily increasing (2 Tim. 3:1, 2, 3, 4, 5, 13).

The delusions of poor Conan Doyle, Oliver Lodge and others are extremely pitiful and their false teachings are deceiving other poor blinded souls now groping in darkness. But, soon, He "whose right it is," will begin His reign, open all spiritually blind ears, and His knowledge and glory shall eventually fill the whole earth as the waters cover the seas.

I trust that what I have earnestly endeavored to set forth in this article may prove helpful to your readers and especially to the two good doctors whose articles inspired me to write in reply.

(Mrs.) E. Y. Walker.

Willard, Ga.

[1]The learned concordance writers are not quite correct when they render *tartaros* (Gr.), or *tartarus* (Lat.) with "atmosphere." The Greek-Latin dictionary defines tartaros briefly as *inferi,* which means, the lower regions. Bulfinch ("The Age of Fable") informs us that tartarus is a place of confinement of Titans, etc., originally a black abyss below Hades; later, represented as a place where the wicked were punished; and sometimes the name is used as synonymous with Hades. The "United Editors' Encyclopedia and Dictionary" relates, similarly, that tartaros was, according to Homer, a deep and sunless abyss, as far below Hades as earth is below heaven, and closed in by iron gates. Into tartaros, Zeus hurled those who rebelled against his authority, e. g., Kronos and the Titans. Afterward, the name was employed sometimes as synonymous with Hades, or the underworld generally, but more frequently to denote the place where the wicked were punished after death—the Lowest Hell.—Ed.

ANOTHER VIEW OF CONAN DOYLE'S IDEAS

I have just finished reading the abortively facetious article, written by Candler, on Conan Doyle's attempted explanation of what we may expect in a future life. One cannot read this sort of an article without realizing that ridicule is not argument.

Dr. Candler's article produces two very distinct impressions—the first is that the man is writing of a subject he knows nothing about and resorts to the pitiful expedient of trying to impress readers with his great erudition by displaying a knowledge of historical characters which read astonishingly like a Chautauqua book of ready knowledge.

The second impression is that Dr. Candler has written this article to try and find out what the other two members of his audience really believed, in order that steps might be taken to get all three in line. For I take it that the "I, Myself and Me" of the Doctor's ménage are never separated; neither are they ever alone.

Dr. Candler sums up his article by informing us that, after all, the best thing for the dear public is, to keep them in leash to the puerile teachings of the Brahma priesthood, as copied by the Hebrews, with change of names

and a little added history, which is called the Christian Bible, after Constantine had had it fixed up to suit himself. I supose the Doctor thinks (as did those of that order) that they must keep the people in subjection through their superstitions, and the thing worked and has continued to work more or less successfully ever since, in the Occident.

For those who think, the problem is not hard to read, for, like a ladder leaning towards Heaven, we can read in each step away from the fixed dogmas a wider-visioned set of beings, until now, after several hundred years, we look back on the teachings of Martin Luther, the great rebel, and wonder how there could have been minds that thought his teachings even bore the mark of radicalism. Yet, after the Bible teachings, as collected by Constantine, had been split up by over three hundred sects (all going to the same heaven), we witness the grand culmination of these teachings in a world war, the hideousness of which has never been duplicated in known history, and are treated to the spectacle of seeing every regiment of all these armies headed by a priest of the gospel of the meek and lowly Jesus; leading these unthinking hordes in earnest prayer that this great, humane God shall perch victorious on the banner of the supplicant and help them to cut the throats of their enemies.

Now as to Doyle's belief, that Dr. Candler has attacked so virulently, I must say, it seems to me that it at least presents something tangible, something worthy of second thought, and in many things perfectly in keeping with what we know of the laws of nature. It harmonizes with many of the known facts endorsed by science, and does far less violence to the workings of a logical mind than do the teachings of any religion thus far presented.

Dr. Candler asks, "Isn't all this infantile attempt to 'communicate with the unknown' born of fear, based on selfishness, etc.?"

The great law of self-interest, my dear Doctor, is the mainspring of all progress, it matters not what avenue of man's mental action is used.

Fear is the chief attribute of the ignorant, unthinking human and, were it not so, none of the religious beliefs extant would live a week.

Krishna, the great Hindoo illuminate, said (three hundred years before Christ was born) "The light dawns from the heart-dwelling, cave-abiding Ancient; to him who hath, by long dwelling on the self, seen him as God—hath neither joy nor grief."

Jesus said, "The kingdom of heaven is in you—that shall ye seek first—all other things shall be added unto you."

And here is the great point that is missed by all followers of these teachings—the doing of the things that will bring the knowledge of the psychic laws.

If you take the teachings of Krishna and draw the parallel by placing his words in one column and those of Jesus opposite, they are almost identical, word for word. That does not vitiate the laws they taught, for a truth is a truth, no matter who discovered it, and if we can make the teachings harmonize with what our reason shows us to be true in nature, we can profit by adopting them, always remembering that, whenever these teachings do violence to logic, we must pass them by.

We can only reason by analogy. Hence we are compelled to ferret out the laws of the known if we would comprehend aught of the unknown.

Recent discoveries by science have shown that joy as well as anger will stop the flow of gastric juice and retard digestion. Thus we move up one peg in knowledge of the laws of mind and, incidentally, find a physical reason for observing the teachings of the great Hindoo and of Jesus in advising harmony of mind. We might write the formula thus: "He who would keep a healthy body, must keep an even mind, thus escaping joy and grief."

"The kingdom of heaven is in you" is merely another way of putting the same truth. Seeking it first is "Good Medicine."

Being then able to see the utility of these laws, on the physical plane—which is the known—we understand the logic of seeking to do the same thing for all the phases of mind. Therefore, any start in that direction, even thought as crude as is this one of Doyle's, is a step up the ladder and should be welcomed, not ridiculed or even contrasted with the childish twaddle that is woven about the philosophizing of the great mind of a past generation.

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Dr. Candler quotes Flammarion and several other modern authors, with the evident idea of convincing the reader that the writings of these authors were pure imagination and, as such interested merely to show what the mind is capable of and to pass a pleasant hour. He has evidently not read Flammarion's book on dreams and on ghosts.

Flammarion (who, by the way, is a good Catholic, I understand) perhaps started his investigation of dreams and also of apparitions with the idea of proving their absolute unreliability as a physical manifestation or of

mental consequence. But, if that was his idea, he finished his work in a different frame of mind and said so—admitted the material existence of apparitions and said that he could not answer the problem wholly from the viewpoint of those who affirm that these apparitions are merely emanations from the subconscious mind.

This has invariably been the experience of all investigators—no brighter minds than those of Crooks, Meyers, Lodge, Russel, Hodgson, Riche and many others who have delved into the subject have almost inevitably been turned from the skeptics into at least tolerant searchers for further light, and have so thoroughly been convinced of the emptiness of all the religions now taught; and each has called upon his fellows to stop ridicule and get down to thorough investigation, at least to give the subject the same patient, tolerant attention that would be accorded to any other vital subject.

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If "half a century of association with my fellow men" has only netted Dr. Candler the belief that existing conditions of man's mind should not be disturbed, and that he should cling to a philosophy which does violence to the thoughts of even a child, I do not hold him to be a very safe adviser of the human race. For, inborn in every being is a desire for progress, and progress is not attained by binding the mind back, which is the true meaning of the world "religion."

He says, would it not be perfectly ridiculous to imagine that those who have died can come back? Suppose they have never gone away. Suppose it is a fact that we change to another condition of life, just as happens now in some of the lower forms of life, and continued to live in another form or another, more attenuated, form. Would this be a very different thing from the changes that we now know are possible in this present form

Suppose, for instance, tomorrow we should awaken to find that our eyes had changed in the night so that, instead of our being able to see objects only in the blue rays of the solar spectrum, we could now see them in all the other rays—ultra violet, red etc. Would not that be a marvelous transformation of our present world? Would we who could not see thus think it incumbent on us to sneer when told of the wonders now perfectly discerned by the new eyesight? Would we not be a parcel of fools to ridicule such a person, provided that he could give us convincing evidence that he did see thus?

Certainly, we should be obliged to admit that this postulate is a logical one. Let us see what we can prove of this sort of speculation, in regard to things we do not see with our own vision.

Probably many readers of this magazine have seen Slater or Slade go down a dark corridor and find a pin stuck in the wall by someone else; or travel at top speed through the streets of a city and go straight to an article secreted in an obscure place, that an ordinary person could not have seen with his eyes uncovered. Thousands of persons have witnessed these things. You may call it muscle sense, clairvoyance, mind reading or what you like. The fact still remains that there are persons who have the ability to sense things not sensed by the commonalty.

Science has now moved up to the point where it recognizes the dynamic theory of life. She admits also that seven of the necessary categories necessary to prove a scientific fact have been complied with, or demonstrated to exist, in proving that there is a fourth dimension of space and also a fourth state of matter. Let us suppose that the other facts be cleared up, and the fourth state be proved.

Gustave le Bon has shown that all matter is negative electricity and that matter can be completely annihilated, also that all matter is in a constant state of vibration—incidentally proving the Hindoo statement that nothing is so permanent as the changelessness of change.

If it be true that matter is negative electricity and is in a state of radiation, when we remember that matter is surrounded by positive electricity, that we already harness and use to do work for us, then we can go back to the great Faraday and realize what it meant when he discovered that all matter is flanked by a charge of positive electricity and the charge is always equal to its valance or combining power with other elements.

Then we really have a positive electric form that corresponds to every particle of negative electric matter of which our bodies are composed.

We know that positive electricity exists in the surrounding atmosphere separately from negative electricity, and that we are using it in countless ways—if the dynamic theory is true, it would not be a wild stretch of imagination to guess that it would be possible for our positive electric form to separate from its negative companion and retain its shape constituting what we ignorantly call an apparition.

Faraday also showed that every electric cur-

rent is surrounded by an insulation of magnetism—perhaps the mind is formed in this and is retained as an aura of the form, since Le Bon has claimed such an aura does exist, and that animals can see it in the ultraviolet ray, see us as immense luminous creatures.

All these things give food for thought and the man who sits back, and ridicules, and urges us to cling to the follies of an ignorant age is the menace we should shun, and not men like Doyle who urge us on to investigate.

F. G. DE STONE.

Turlock, Calif.

FLUID EXTRACT CONDURANGO

In chronic and subacute hemorrhage of the uterus, menorrhagia in menopause, and in metrorrhagia.

Condurango, as described in Sajous's "Analytic Cyclopedia of Practical Medicine," is the bark of the Gonolobus Condurango, a vine grown in South America. It contains a yellow resin, tannin and two Glucosides.

Preparation and Dose: — Fluid-Extract Condurango, dose 1 fluid drachm; wine, dose 4 fluid-drachms; the decoction 4 fluid-drachms.

Therapeutics:—Condurango was first used in gastric carcinoma and gastric ulcer. It is now known that it has no effect on these diseases, but does allay pain.

A few years ago, on account of the high price of Fl.-ext. hydrastis and my inability to get the brilliant results from the drug in proportion to the price, my attention was called to the fact that Fl.-ext. Condurango was being used as a stomachic tonic. While I had great need of a stomachic, I had greater need of a drug checking uterine hemorrhages of all kinds. So, I proceeded to test it along the same lines as hydrastis is used for these complaints; such as hemorrhage due to fibroids, menorrhagia in the menopause, metrorrhagia, uterine hemorrhages of unknown origin, and hemorrhages caused by cancer of the uterus.

After about eight years of experience with the use of this drug, I find that Fl.-Ext. Condurango, given in 20-minim doses every two hours until required effect, then less often, is excellent and superior to any other drugs that are used in these conditions.

I consider it a specific in uterine hemorrhage after miscarriage or abortion, in hemorrhage during menopause, in metrorrhagia, menorrhagia, in postoperative hemorrhage, when the bleeding is prolonged after labor, or in any chronic or subacute hemorrhage from the uterus. In short, condurango is indicated wherever the use of hydrastis is advised.

Now, as to bleeding from the uterus caused by fibroids, condurango will control it longer than any other drug and it will act with more dispatch. In cases of old fibroids with bleeding that has gone so long that one despairs to operate on account of loss of blood and weakness, I assert that this drug will control the hemorrhage, tone up the stomach and always give a more favorable case to operate upon. It causes no pain or discomfort in its action upon the uterus. It does not upset the stomach and it is a good alterative.

In cancer of the uterus, it will control bleeding longer than any known drugs and quicker. I use it exclusively on inoperable cancers of the womb.

The drug Fl-Ext. Condurango is non-poisonous in medicinal doses and not cumulative. The only strange effect I have ever had from the drug is as follows: In trying to make sure that, in excessive menstruation or bimonthly menstruation, I did get a correct and lasting effect, the drug was given a good while after bleeding ceased and the patient skipped the next regular time for her period, but with no ill effects.

I have called attention to the use of this drug to a number of my fellow practitioners who have reported on it very favorably.

C. W. MAXWELL

Philadelphia, Pa.

OLD DEVIL WORRY

Old Devil Worry, always sticking round.
We scarce have cracked his "noodle" with our will,
And sent him rolling down the trouble hill,
Till, lo, we find him taking firmer ground.
His pluck in sticking doth our thoughts astound;
Our hearts with anxious terrors doth he fill;
He prys into our business constant, till
Life's purposes and secrets he has found.

He daily springs upon the weary soul
Distresses which no mortal can control.
He poisons all the founts of earthly joy,
Pollutes the waters sweet with prospects bright;
And then Old Worry doth our minds annoy;
From Hope's bright morn till Despair's gloomy night.

JAMES A. DEMOSS.

Thayer, Kansas.

What Others are Doing

SULPHARSPHENAMINE D.R.L.

Recommended for Subcutaneous or Intramuscular Use

Sulpharsphenamine is a recent addition to the list of potent preparations for the treatment of syphilis. It is prepared from arsphenamine, formaldehyde and sodium bisulphite, and its structure is similar to that of neo-arsphenamine, differing from the latter only in having a side chain containing one additional atom of oxygen. It has been largely used in France during the last three years and has had considerable popularity. Sulpharsphenamine D.R.L. is manufactured by the Dermatological Research Laboratories under license from the Chemical Foundation, Inc.

Properties.—Sulpharsphenamine D.R.L. is a light yellow, finely divided powder, dissolving very easily in water and making a stable solution. It contains on an average from 19 to 21 percent of arsenic, as compared with 18 to 20 for neo-arsphenamine and 30 to 32 percent for arsphenamine. It has the advantage of being stable, both in powder and in solution form.

Toxicity.—Careful tests of sulpharsphenamine have been made by Voegtlin (*Public Health Reports,* Nov. 10, 1922), who found it much less toxic than arsphenamine and comparing very favorably with neo-arsphenamine. Voegtlin says that "these preparations of sulpharsphenamine are far less toxic than preparations of arsphenamine or neo-arsphenamine which just fulfill the official requirements. This difference between the three drugs is still more pronounced when the toxicity of subcutaneous injections of sulpharsphenamine is considered, a fact which justifies the conclusion that sulpharsphenamine is a drug of extremely low toxicity as compared with that of arsphenamine and neo-arsphenamine."

The results obtained by Voegtlin have been verified in the Dermatological Research Laboratories, where it has been established satisfactorily that it compares favorably in toxicity with neo-arsphenamine D.R.L.

Trypanocidal Power.—According to Voegtlin, the trypanocidal power of the sulpharsphenamine, determined by himself, is about the same as that of average commercial neo-arsphenamine on the market. The D.R.L. tests show that it has a marked trypanocidal action, but that it is inferior in this respect to neo-arsphenamine D.R.L. Likewise, as pointed out by Voegtlin, it acts more slowly upon the Trypanosoma equiperdum than either arsphenamine or neo-arsphenamine. This may be considered an advantage, in some instances at least, since "slow action of the drug upon the parasites might tend to prevent the occurrence of reactions due to the liberation of spirochetal material following the rapid breakdown of parasites."

Clinical Tests.—The literature on the use of sulpharsphenamine is still scanty. Doble (*Lancet,* July 31, 1920, p. 243) thinks highly of it, believing the hypodermic method of administration to be ideal for infants and those with inaccessible veins. He has had no side effects, and the usual contraindications did not appear to be as marked as in the case of other, similar arsenicals. He recommends the hypodermic method as being "fool-proof and practically painless." Montpelier (*Ann. Mal. Vén.,* Feb., 1921) complains of frequency of the nitritoid crises following the use of sulpharsphenamine. He believes, these can be avoided by making injections very slowly. As a matter of fact, others assert that these reactions are unusual when sulpharsphenamine is used. Crawford and Fleming (*Lancet,* Oct. 1, 1921) give their experience in the treatment of thirty-five children, in which they found the drug less efficacious than arsphenamine. Papagaay and Rinsema (*Acta. derm. ven.,* July, 1921), after an experience with 91 patients treated subcutaneously with sulfarsenol (sulpharsphenamine), prefer to treat these cases with neo-arsphenamine intravenously. Powell, quoted by Voegtlin (*loc. cit.*) states that one case of primary syphilis in a sailor, treated with 0.4 Gram of sulpharsphenamine showed complete disappearance of spirochetes from the chancre after 24 hours.

In a later report (*Lancet,* Jan. 13, 1923), Doble praises sulpharsphenamine very highly. He says, "It is the only one of the arsenobenzol compounds which can be given by injection into the muscles or subcutaneous tissue without causing great pain." The results ob-

tained with the drug have been uniformly good, comparing favorably with neosalvarsan." He has treated a number of cases that have reacted badly to the other arsenicals and that have been refused treatment on account of dermatitis, jaundice or other complications.

Doble says that, in the treatment of infants, there is no drug to touch sulpharsphenamine; and that with it the pregnant woman can be treated right up to the birth of the child.

Sulpharsphenamine D.R.L. has been given a careful clinical trial in a well known Philadelphia hospital, where it was used mainly by the intramuscular route. Injections into the gluteal region were found practically painless in the majority of cases. No reactions were observed, and clinical results, shown by the disappearance of lesions, were exceedingly satisfactory.

Method of Administration.—Sulpharsphenamine D.R.L. may be given by the intravenous, subcutaneous or intramuscular routes. Doble and most others prefer intramuscular injections. For intravenous administration, it is believed to be markedly inferior to neo-arsphenamine D.R.L., the efficiency of which is so well demonstrated that its replacement by sulpharsphenamine is not recommended when the neo-arsphenamine is available. Sulpharsphenamine is believed to be the arsenical of choice when it is necessary or desirable to give the remedy by the subcutaneous or intramuscular route. In the treatment of children or when the veins are small or inaccessible, this method of administration is often to be preferred. Dilute solutions injected hypodermically produce a slight burning sensation at the site of injection. Pain is even less noticeable when more concentrated solutions are employed, although intramuscular injections cause some local reaction; which, however, is much less severe than those following similar injections of arsphenamine and neo-arsphenamine.

Five- to 10-percent solutions are frequently administered, but Voegtlin and Powell recommend the use of 20- to 30-percent solutions. The drug may be injected subcutaneously beneath the scapula or loose skin of the forearm, or intramuscularly into the buttock.

Dosage.—Sulpharsphenamine D.R.L. is available in doses of 0.2, 0.3, 0.4 and 0.6 Gram. If it is desired, treatment may be begun with the smaller doses to establish tolerance and then these may be gradually increased. The doses most employed are 0.4 and 0.6 Gram, and these may be injected every other day, twice a week, or weekly, according to the requirements of the case. The general treatment of cases is the same as recommended by experienced syphilographers.

Present Status.—It is at present impossible to give a definite opinion as to the exact field of usefulness of sulpharsphenamine as compared with the older and better known arsphenamine and neo-arsphenamine. That it is a curative agent of value in the treatment of syphilis, has been demonstrated. However, its future can only be determined by exhaustive clinical work. As Voegtlin says, "We strongly emphasize that, before this drug can be introduced for general use, it will be necessary to give it an exhaustive trial as to its curative power in human syphilis. There is no way to predict the outcome of this trial. The clinical studies especially will have to consider whether or not sulpharsphenamine has, for normal and syphilitic tissue, the same penetrating power as, or better than, arsphenamine and neo-arsphenamine. After all, the main difficulty with the arsenicals in present use appears to consist in their failure to reach the last spirochetes which may be buried in lesions that are difficultly accessible. It is obvious that incomplete sterilization of the patient due to this cause will prevent a cure and will cause, sooner or later, clinical relapses."

It is recommended that Sulpharsphenamine D.R.L. be given a careful clinical trial, especially in cases not suited to the intravenous treatment, as, for instance, in infants or young children, in adipose patients, those having veins not readily accessible, in cases subject to troublesome reactions from the older arsenicals (as described by Doble, in the preceding), and for administration by physicians not thoroughly skilled in the technic of intravenous medication.

It should be remembered that the field of the arsphenamines is not confined to syphilis. Sulpharsphenamine has been used in malaria, smallpox, and in the complications of gonorrhea. Doble has treated nearly 300 cases of gonorrheal arthritis, hyperkeratosis and epididymitis with this drug, and likes it very much; he has never failed to stop the pain of epididymitis in a few hours and reduce the pain and swelling in a few days.

THE DEFENSIVE FUNCTION OF THE THYROID

"The defensive function of the thyroid is well shown in tuberculosis." This statement was made by Solomon Solis Cohen, the other

day, at the Philadelphia County Medical Society, but the following one was still more important: "Whether the great value of iodine in early tuberculosis is due to stimulation or supplementation of this function, is still an open question." But it is very clear that some of the things that we have been noting in our clinical experiences and crediting to drugs were in reality of pharmaco-endocrine origin, and it is very probable indeed that the advantages that have accrued from iodine therapy, not merely in tuberculosis but in other conditions, have been due to its remarkable selective influence upon the function of perhaps the most remarkable factor in the regulation of the chemistry of the body—the thyroid gland.—[*The International Digest of Organotherapy.*]

THE ACTION OF CARBON TETRACHLORIDE ON THE LIVER

With the suggestion of carbon tetrachloride being employed as a vermifuge, it naturally became necessary to determine whether this drug exerted any unfavorable action upon the organism. As a matter of fact, Smillie and Pessoa reported that, in small doses, carbon tetrachloride produced a definite fatty degeneration of the liver and kidneys of dogs. Consequently, before using this drug generally in Ceylon as a vermifuge (against ankylostoma, ascaris, trichuris, oxyuris, etc.) it was believed advisable to ascertain whether corresponding lesions were produced in man. Docherty and Burgess (*B. M. J.*, Nov. 11, 1922, p. 907) referred to Leach's report that, on autopsy, no microscopical change was noted in liver or kidneys following a dose of 12 Cc.

These authors treated two condemned men, with the approval of the superintendent of prisons and with the personal consent of the prisoners themselves. One of these men received 5 Cc. of carbon tetrachloride, the other one 8 Cc. in two doses (5 and 3 Cc., respectively). The anthelmintic was given on an empty stomach in the morning, followed by tiffin of rice from one and one-half to two hours afterwards. One of the men received a post-purge of one ounce of saturated magnesium sulphate solution, three and one-half hours later. The second received the same purge, eight hours after treatment. A third prisoner, who had received 5 Cc. of the carbon tetrachloride and had become nauseated, vomited the magnesium sulphate solution given eight hours later and refused a repetition.

On autopsy, it was found that carbon tetrachloride in 5 Cc. doses produced microscopical lesions in the liver in two cases. On this account, the authors deem it inadvisable to prescribe even as much as 5 Cc. with purgation, and certainly not without it. It is apparent also that this dose as a maximum borders on the danger line. A safe maximum seems to be 3 Cc., since it has been given to a number of patients in Ceylon without producing any feeling of discomfort, though so far no autopsy has been performed on any individual so treated to ascertain whether or not the kidney or liver was injured.

From its action as a vermifuge, the authors agree with both Leach's and Hampton's and Nicholl's report that it seems to be practically specific for ankylostomes, fairly efficient in the removal of Ascaris lumbricoides and Oxyuris vermicularis, and of little value in the elimination of Trichuris trichiura.

CHRONIC APPENDICITIS AND INTESTINAL TOXEMIA

In young children, when chronic appendicitis has been diagnosed by means of the x-ray bismuth meal, and there are many symptoms of intestinal stasis and toxemia present, there are two ways of dealing with such a condition. One, the removal of the appendix, which only relieves the appendicular condition; the other more laborious but often more effective, as it directly acts on the whole of the intestinal tract and general system. It is a combined treatment, namely:—

1.—An autogenous heterogenous antigen should be prepared from the fauces (nose and throat swabs), as it has been claimed for many years that tonsillar and appendicular tissues are similar, and identical bacteria are found in both places in the same individual.

Also, a similar antigen should be made from the feces, obtained aseptically (heat resisting and spore-forming bacteria should be excluded from the antigen). These antigens should be mixed before use and injected as usual.

2.—A careful dietary should be ordered.

3.—Intestinal antiseptics should be given, such as hydrargyrum cum creta, cyllin, kerol or beta-napthol.

4.—Abdominal massage should be done according to the evidence of the bismuth meal findings.

When all these are carried out simultaneously, it may not be necessary to resort to operative interference.—*Nutrition and Pediatrics.* First Quarter, 1923.

Among the Books

NICHOLS: "CARRIERS IN INFECTIOUS DISEASES"

Carriers in Infectious Diseases. A Manual on the Importance, Pathology, Diagnosis and Treatment of Human Carriers. By Henry J. Nichols, M. D. With a section on Carriers in Veterinary Medicine by R. A. Kelser, D. V. M. Baltimore: Williams & Wilkins Company. 1922. Price $3.00 United States, $3.25 Canada, $3.50 other countries.

Here is a monographic treatise of convenient length (184 pages) dealing with the carrier problem. According to present views, chronic carriers, who constitute more or less permanent reservoir of pathogenic microorganisms, are able to infect their environments and contacts and may become responsible for epidemics. Whether or not this view will continue to be held (and it seems to us that it is an extremely plausible explanation for a great many epidemics of infectious diseases, especially those in circumscribed neighborhoods), the study of the problem is extremely important. It affects virtually every single phase of the physician's work and influences his management of cases as well as the patients.

Quite indubitably, physicians all over the country, especially general practitioners, should study this little book with great care.

In view of the fact that the author has had a large amount of personal experiences as a member of the Army Medical Corps, we may be sure that the teachings are those held by leading authorities and by most competent workers in this particular field.

SCOTT: "ENDOCRINE THERAPEUTICS"

Endocrine Therapeutics. Practical Suggestions. By Thomas Bodley Scott. Philadelphia: P. Blakiston's Son & Co. 1922. Price, $1.50.

This little volume was foreshadowed in an earlier book by the same author ("Modern Medicine and Some Modern Remedies," New York, 1916) in which he expressed the opinion that the great future in therapeutics belongs to the organic animal remedies, to the ductless-gland extracts and to organic chemistry.

Speaking of endocrine therapeutics in general, the author asserts that it fulfills the original meaning of therapeutics in that it includes the prevention as well as the cure of disease, the way of health, the way of life versus health. Endocrinology is beginning to revolutionize medicine. The author asserts that it is a new science and that its influence upon therapeutic thought is not a renaissance but an entirely new birth opening up unthought vistas. In therapeutics, he says, we must, above all things, keep the open mind. Our knowledge of disease and what we call health is so small that humility is the only true mental attitude, but it must be humility stimulated by hope and encouraged by success.

The author is not only a physician but also a philosopher, an optimist and a proponent of the new school of physicians who insist upon treating their patients as individuals, as thinking and feeling entities rather than as disordered engines. He accuses physicians of being too persistently objective. "The poor owner of the diseased body is almost left out of the problem, and yet in him lies the very fountain of successful healing, a source however, that is often sealed, stagnant and sometimes, alas! that is in opposition; countersuggesting and frustrating the good we would gladly do."

Altogether, Doctor Scott's book on endocrine therapeutics is not to be consulted only for a practical and hopeful description of the subject. The author is full of kindly, optimistic, human advice. His text is interspersed with numerous pithy, appropriate aphorisms and epigrams. Above all, his definite and assured confidence in the possibilities of endocrine therapeutics is to be acclaimed. It differs so markedly from the adverse, vociferous, abusive criticism that is expressed in the latest issue of *Hearst's International* by that remarkable critic of the medical profession, one Paul DeKruif, who, not being a physician, still deems himself eminently fit to preach to medical men. Not that he uses any thunder of his own, except vilification and clever language. His material is quite evidently a reproduction and a rehash of what "the keepers of the temple", have set before him. In his

latest diatribe, DeKruif admits, necessarily, the possibilities for good contained in endocrine remedies, but he denies that there is any salvation in the makers of these preparations, consigning them all to the devil for their commercialism, for putting up such remedies for gain.

We confess that we prefer constructive, encouraging books like the one presented by Doctor Scott to the prejudiced vaporings of certain "Reformers" of the medical profession whose greatest forte is that of "the spirit that denies."

REPORT ON EDUCATION

Chamber of Commerce of the United States. Majority Report of Special Committee on Education. Participation of the Federal Government in Education. November 20, 1922.

The most important subject, we are informed, submitted to the Committee mentioned in the title, is the question of federal participation in education.

Shall the states continue to maintain and be responsible for the public schools of the country?

Shall the National Government take over the support and control of the schools?

Shall there be a divided support and control, partly vested in the National Government and partly vested in the states?

From this outline, as it were, of the contents of this pamphlet, our readers can form an opinion of its scope. It is of importance not only to fathers of school children but to all citizens. We believe that copies can be secured by addressing Mr. James J. Storrow, 44 State St., Boston, and we urge physicians to study this report with care.

TO AMERICAN WOMEN

Here is a little pamphlet of twenty-four pages containing a plea to American women as members of the responsible American public. The plea is:

That women assess anew the value of the intimate and unending service of chemistry to home, community, and country:

That they weigh afresh the obligation resting upon us all to bring our country abreast of the world's foremost nations in this branch of knowledge which literally underlies our physical and our economic life; and

That to meet this national obligation women do their obvious parts in their accustomed walks of life.

The text deals with the progress and victories of modern chemistry; it shows how chemistry enters all phases of life, how it interests (because it concerns) everybody, and how women, especially, are affected by the status of chemical problems.

JOHNSON: "COLLECTION OF NOTES"

Dr. Johnson's Collection of Notes. Please Consider This a Personal Talk. Copyright 1919 by C. L. Johnson, M. D. Ripley, Tenn. Third Edition, Reprinted 1923. Price, $1.

This pamphlet contains thirty-two pages of "Notes" excerpted from numerous medical journals and arranged according to therapeutic indications for the various remedies and methods suggested. A few methods (such as autotherapy, for instance) are included.

While it must be admitted unhesitatingly that a good many of these therapeutic suggestions are very serviceable, we doubt the advisability of the plan itself. The collection strikes us as somewhat uncritical, and the physician who is actually in need of therapeutic suggestions will have to go it rather blindly. That practitioner, who would employ such hints logically, will rarely be forced to resort to this sort of "Notes."

The proof-reading is rather faulty. There are numerous printers' errors and even some offenses against grammar. We are informed that a new edition is just off the press and that it is to be sold at the price of $5.00.

"NUTRITION AND PEDIATRICS"

Nutrition and Pediatrics. A Quarterly Gazette on The Diet and Disorders of Infancy and Childhood. 56 Osnaburgh St., London, N. W. 1. Price 2/6 for one year.

Here is an attractive little journal of which a specimen copy has just come to our attention. It contains a number of valuable articles, such as, "The New Science of Nutrition"; "Vaccine (Antigen) Therapy in Childhood"; "Simple Ailments of Childhood (1) Coughs and Colds"; "Milk and Infectious Diseases." The articles are well prepared and are helpful.

In the editorial comment, it is said that every generation or decade has its predominant medical interest. During the past generation, the most active subjects of medical investigation have been those relating to bacterial infection. Today, nutrition and disorders of nutrition seem to have become the central theme of interest.

That being the case, a journal devoted to this special subject, to the study of diseases of the metabolism and other ailments in children must be welcome.

ROSENAU: "PREVENTIVE MEDICINE"

Preventive Medicine and Hygiene. By Milton J. Rosenau. Fourth Edition. New York: D. Appleton & Company. 1921. Price, $10.00.

Rosenau's book is one of the outstanding treatises on preventive medicine and hygiene. The subjects that are covered in it are so greatly everyday problems that general practitioners can not afford to forego its study. This will appear clearly from a simple enumeration of the sixteen sections covering the 1500 pages of text, reference to which is greatly facilitated by an index occupying over 60 pages. The sections are as follows: Prevention of the Communicable Diseases; Mental Hygiene; Public Health Measures and Methods; Immunity, Heredity, and Eugenics; Food; Air; Soil; Water; Sewage Disposal; Refuse Disposal; Vital Statistics; Industrial Hygiene and Diseases of Occupation; School Sanitation and Personal Hygiene; Disinfection; Military Hygiene; A Laboratory Course in Preventive Medicine and Hygiene.

The author is a successful teacher, which is made very evident by his clear and lucid manner of writing and his illuminating explanation of difficult problems.

For the general practitioner, who is pestered by the idle but, nevertheless, annoying and vociferous claims of antivaccinationists, the first chapter, that on smallpox and vaccination, will be particularly valuable, because it presents so incisive an argument in support of the great services to mankind accruing from and through vaccination that no lucid thinker can close his mind to the benefits derived from this method of disease prevention. The problem of immunity also is discussed in great detail and should form the subject of particu-

titioner will be enabled to deal all the better with many of the problems that are submitted to him.

larly careful study. Through an understanding of the questions contained in it, the prac-

ROBINSON: "SEXUAL IMPOTENCE"

A Practical Treatise on the Causes, Symptoms, and Treatment of Sexual Impotency and other Sexual Disorders in Men and Women. By William J. Robinson, M. D. Eleventh Edition, Revised and Enlarged. New York: Critic and Guide Company. 1923. Price, $5.00.

The first edition of Robinson's book on sexual disorders appeared in 1912. Ten years later, the eleventh edition was launched. That is not a cause for astonishment, if it is remembered that Doctor Robinson has made this particular subject one of his peculiar care and attention. Besides, his incisive style attracts and convinces.

Robinson's book is undoubtedly a complete treatise on its special subject. The views which he voices and on which he bases his discussions and his methods of treatment are sound, because they are conservative in the best sense of the word. They are sensible. Moreover, Robinson is practical. Reading his discussions, his case histories, the concrete advice he gives patients, one gets something that can be used, that can be put into practice. For that reason, we do not feel that we are straining the truth by saying that this work "gets better and better" with each succeeding edition.

DAVIS: "IMPOTENCY AND STERILITY"

Impotency, Sterility, and Artificial Impregnation. By Frank P. Davis, M. D. Second Edition. St. Louis: C. V. Mosby Company. 1923. Price, $2.25.

The author finds that more women consult physicians for relief from barrenness than formerly. He claims that the majority of cases of impotency and of sterility may be relieved and he declares properly that it is the duty of the physician to afford that relief and that he may not put off patients, as used to be done altogether too much, in years gone by.

The first edition of this little book appeared, it will be recalled, in 1917. The second edition contains several important additions and is virtually a new book. Much of the material is dictated by the author's personal experience in active practice and has proved, he informs us, generally successful with his patients.

Doctor Davis is evidently an active therapeutist. In addition to general and local treatment, he refers to a considerable number of drugs as being indicated in various conditions of irregularity in the sexual functions. Some of these remedies are rather apt to make us smile; for instance, graphite, which is suggested in the first and second Homeopathic dilutions.

We believe, however, that the little book possesses merit in many ways.

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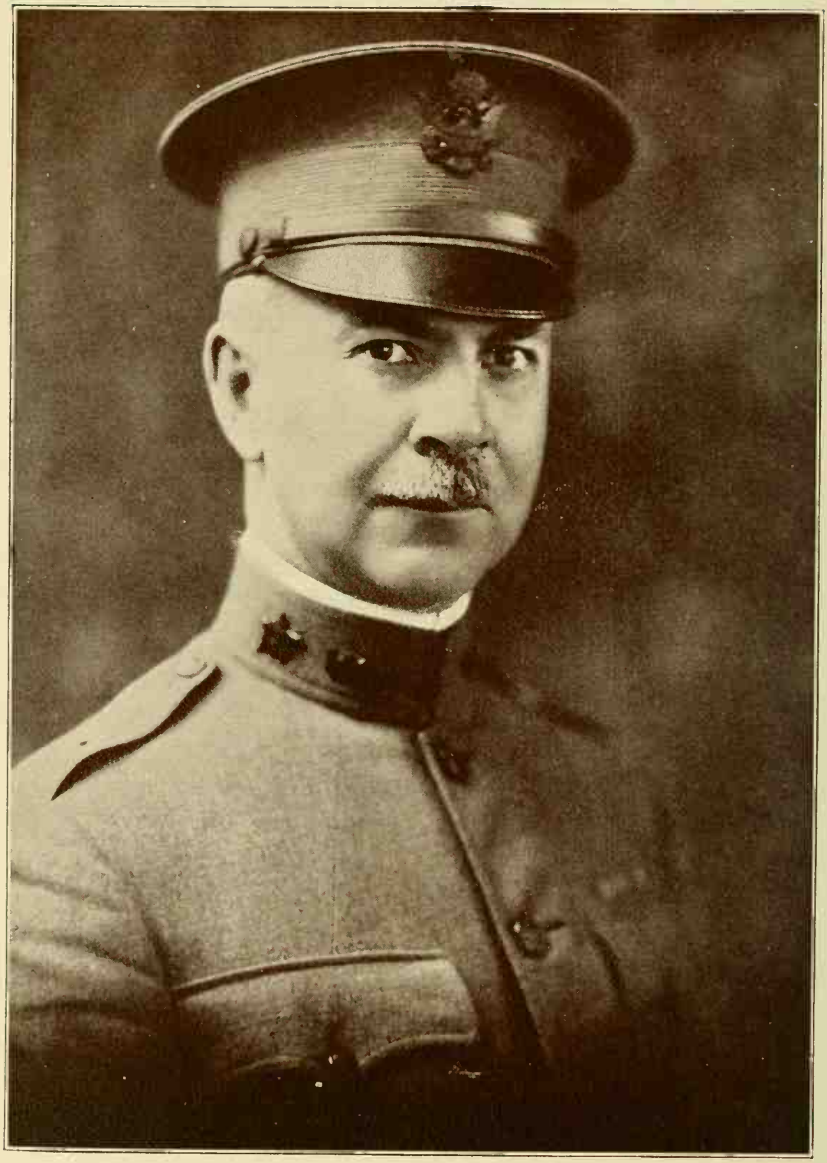

Colonel Edward Lyman Munson

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

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Colonel Edward Lyman Munson

COLONEL Edward Lyman Munson was born December 27, 1868, in Connecticut, and was graduated in medicine from the medical department of Yale University, in 1892, having received from the same university, a year previously, the degree of Bachelor of Arts. A year later, his Alma Mater conferred upon him the degree of Master of Arts and, in the same year, he passed the entrance examination for, and was commissioned in, the medical corps of the regular army. Five years later, he was promoted to the grade of captain. In 1906, he rose to field rank (major) and, about nine years later, he changed the gold leaves of a major to the silver leaves of a lieutenant colonel. Shortly after the World War became also our war, he was promoted to the grade of colonel. During the war, he held for about nine months the emergency rank of brigadier general.

Colonel Munson is one of the best known medical officers in the medical profession, as his hygienic work has attracted considerable attention. The system of making lasts and fitting hygienic or, rather, rational shoes, devised by him, is known not only to orthopedic surgeons but to the general medical profession and to educated laymen.

Aside of a textbook on military hygiene, which is considered a classic, Colonel Munson has prepared a number of articles and monographs bearing on medico-military leadership in the field, and these works are so graphic that the medical men interested in army duties could gain an adequate idea of the tactical problems in modern wars which fall to the lot of physicians serving with troops at the front.

His literary activities led to his election as secretary of the Association of Military Surgeons of the United States and as editor of *The Military Surgeon,* shortly after his return from a tour of duty in the Philippines a few years ago; but, just as he had succeeded in greatly enlarging the then small monthly, he was called to the Southern Department as chief sanitary officer, in connection with the mobilization of the regular army and national guard troops on the Mexican Border, early in 1916.

This office involved great responsibility and initiative, as he had full charge of the sanitary work of the camps of concentration on the southern border.

When the measures to guard the health of the rather raw troops in a semitropical country were fully developed, he was relieved from that duty and assigned as chief surgeon of the 12th Provisional Division, composed prin-

cipally of troops from Illinois and Wisconsin.

The most noteworthy feat of this division was, a march from San Antonio to Austin, Texas, and return; and, in spite of great heat and an inadequate supply of drinking water, the march was a success not only in a strictly military sense but also from a sanitary point of view. The incidence of morbidity was negligible.

Colonel Munson did not allow the mobilization to go unutilized, for he conducted classes and tactical conferences for the medical officers of his division, and thus instructed a number of medical men who became specially qualified for duty in the World War, a year later.

Many ex-medical officers will recall him as head of a large medical training camp during the early part of the last war. Later he was assigned to duty with the general staff as morale officer, and as such he has rendered valuable services not only to his own corps but to the entire army, a fact which is generally acknowledged by all line and staff officers of the regular army.

DR. G. FRANK LYDSTON (1858-1923)

Lately, a little incident spread broadcast as an inspiration to the entire nation. "Let's go" is a motto, not only of the army but of all organizations and men with the right spirit. It is his, and—while not intended for public consumption—he coined the phrase which typifies the man.

Colonel Munson has been awarded the Distinguished Service Medal and several high foreign decorations.

He has helped in many ways to increase the efficiency of the medical service of the Army and has done a good deal to interest the medical profession in national defense. Prominent as a military man, he is also an honor to our profession.

DR. G. FRANK LYDSTON (1858-1923)

A few days ago, the newspapers contained the report of the passing on of Frank Lydston who had been an important figure in the medical life of the United States for many years. Doctor Lydston succumbed to pneumonia after only a brief illness on March 14, in Los Angeles, where he had been spending the better part of the winter.

It can hardly be said that Doctor Lydston had gone to live in California to "rest." As is true for so many men accustomed to an active and busy life, Lydston had never learned to play and, although he had attained the age of sixty-five years, he had found it impossible to take it easy. Still, the mild California climate appealed to him, a native of that wonderful state, and he felt like going home when, some years ago, he had gotten into the way of spending weeks, or months, at a time in California.

It would be difficult to fix upon any one thing with which Doctor Lydston's name is especially associated and for which he is particularly well known. His activities were as numerous as was well possible. To physicians, he appealed as one of the leading genitourinary surgeons of the country. Indeed, it was Frank Lydston, among others, who established genitourinary practice as one of the recognized specialties of medicine.

In going back to Lydston's early contributions to medical literature (and it may be said in passing that his writings were voluminous and comprise several hundred titles) one is astonished at the foresight and at the keen insight that he showed, anticipating many recent attainments and discoveries.

Doctor Lydston was a criminologist of note, a personal friend of Lombroso, who thought very highly of him. His book on "Diseases

of Society" constitutes one of the important documents on its subject. Lydston's work on gland transplantation was a pioneer effort, he being the first one who ever undertook such an operation. His controversy with Voronoff is in the minds of all of us and we are fully aware of Lydston's priority in this particular field. At the same time, Lydston stimulated interest in the study of endocrinology and hormone therapy, which he undertook with the enthusiasm and thoroughness peculiar to him; tempered, however, by his characteristic analytical and critical habit of research. His most recent investigations concerned studies of the parathyroid function and we are justified in expecting some tangible and worth-while results from them when they shall be published.

Dr. M. J. Latimer, who has been associated with Doctor Lydston for years as a partner, informed this writer that an article on these parathyroid studies will be forthcoming soon and that much of value has been discovered. Doctor Latimer has carried the burden of the enormous practice for some time and will, of course, continue the work that Lydston and he had originated.

Frank Lydston had endeared himself especially to the fellows of the Academy of Medicine, at the meetings of which he invariably shown as a bright and forceful speaker, as a brilliant conversationalist and raconteur and as a delightful causeur. Those who were privileged to come closer to him and to know him personally were impressed with his sincerity, his honesty of purpose, his perseverance, even in the face of obstacles, and his determination to go ahead and accomplish what he had set out to do. We were proud to call Lydston our friend and we miss him sorely.

THE FLOWER OF SORROW

Summer comes and summer goes,
But all months of all years
There is falling of tears;
Summer comes and summer goes,

All hours are grief's, and the sower sows:
Today and tomorrow
The Flower of Sorrow
Buds and blows.

—John Vance Cheney.

G. Frank Lydston—In Memoriam

At its regular meeting, held March 22, the Chicago Academy of Medicine passed the following resolution unanimously:

In the death of Dr. G. Frank Lydston, one of its founders, who passed away on March 14, 1923, the Chicago Academy of Medicine has lost a faithful Fellow, cheerful companion, clever raconteur, learned colleague, ready at repartee, equally prepared for serious discussion. Always willing to take up the cudgels in behalf of his beloved profession, his country and his kind, Frank Lydston, man and friend, physician, scientist, good citizen, will be mourned by those who knew and loved him.

For the Chicago Academy of Medicine,
The Committee:
EUGENE S. TALBOT, Sr.
N. H. PIERCE,
H. J. ACHARD.

March 22, 1923.

CITIZENS' MILITARY TRAINING CAMPS

One of the most startling facts that came out of the war was the discovery that a little more than half the young men who were examined for the draft had something wrong with them either in body or mind. General Ireland outlines the facts in the April number of *Hygeia* in a convincing manner and points out the excellent results that came from proper training in habits of right living, combined with prompt correction of removable defects, which were provided for the man in the service. He continues "The average citizen believes that military service requires a much higher degree of physical fitness than do the

activities of civil life. If equal efficiency is demanded in each instance, this opinion is, of course, false, since the unfit man is hampered in his vocation, be it civilian or military, in proportion to the degree of his disablement."

The citizens' military training camps are carrying on the training that was started during the war. "The man in training camp lives a life which, in the majority of cases, is an entirely new experience. Here he lives according to the laws of health. . . . He has supervised activities in the open air, regular hours for sleep, and wholesome food. He soon learns that proper care of the body brings increased physical and mental efficiency." "Forming good health habits is, of necessity, a part of this training, and habits then formed are not forgotten at the end of camp life. They are carried back, consciously or unconsciously, into family life" and thus bring to bear an influence that spreads to the whole community in which these men live.

CAMP ROOSEVELT

Camp Roosevelt, located on Silver Lake, near Rolling Prairie, Indiana, was established a few years ago, primarily for Chicago boys. At the present time, it accepts boys from all parts of the country. It includes three divisions: summer schools (seventh and eighth grades and all highschool courses); reserve officers' training corps, or military division for older boys, and junior camps.

Camp Roosevelt has made a favorable name for itself in its short life and has contributed toward imbuing adolescent boys with a sense of discipline and of dignity, with love of country and with a love for outdoor occupations.

At the present time, Camp Roosevelt has undertaken the training of highschool pupils for cadet officers who are to qualify as officers at Camp Roosevelt this coming summer. One hundred students for the Reserve Officers' Training Corps are enrolled and are being trained by officers and non-commissioned officers of the U. S. Army.

This class instruction is being tried out for the first time in the history of the R. O. T. C. Hitherto, boys were trained in their schools, and appointed cadet officers without any preliminary specialized training, upon proof of their fitness for such command. This "Intensive Training" will, however, insure a perfect camp organization upon the opening date, which is July 2.

Major F. L. Beals, U. S. A., Professor of Military Science and Tactics in the Chicago highschools, is directing the course, which is equally divided between theoretical and practical instruction, and will be conducted for a series of twelve weeks. It will cover camp customs and traditions, regulations, administration, infantry drill regulations, recruiting, military policy, camp sanitation, military courtesy, scouting and patrolling, tactics and map reading.

This writer, who received similar training while attending public school in Switzerland, is fully convinced of its great value to the participants. He believes that all boys in their teens should, as far as they are physically able, receive cadet training and that all young men should take a series of courses in military training, which might be distributed over the third decade of life similarly as is customary in Switzerland (or was in this writer's time).

The objection that compulsory military training (not military service) is un-American, is badly founded. Indeed, we hold that it is distinctly American, for the reason that it engenders habits of orderliness in thought and in action, that it fosters patriotism, that it teaches the boys to obey—a habit that seems to have gone out of fashion to an alarming degree. We hope that Camp Roosevelt will flourish and will continue, world without end, to extend its benefit to the growing youth of the United States.

Never explain—your friends do not need it and your enemies will not believe you anyhow.—Elbert Hubbard.

THE AIMS OF "HYGEIA"

Hygeia, or health, is not simply concerned with the avoidance of illness; it intends also to lay the foundations for securing good health. Medical science for many years has devoted more and more time to finding how to prevent illness as well as to cure it. In order to secure the full benefits of this study, it is not enough that the doctor knows the causes of disease and what the human body needs in the way of proper food, air, light, exercise and recreation to insure good health; it is far more important that other people know and understand; that there is "cordial cooperation of the medical profession with the public. It is the purpose of *Hygeia,* the new monthly health magazine, to secure this cooperation."

Already, largely as the outcome of experiments on animals, the number of cases of pre-

ventable disease such as consumption, diphtheria, smallpox and typhoid, has much diminished and the toll of deaths from these causes has fallen steadily and greatly. These seem almost magical when the facts are known. But it is not enough and we should realize that "Health has a positive side; it is not enough to live long; it is desirable to live well, and that nation which secures for its citizens the greatest average life with the greatest freedom from disease will in the end possess the earth."

Give out a grouch and you get it back with interest, grim, grum and jinxlike.—Elbert Hubbard.

"CHIRO" SALESMANSHIP

When I read the Editorial referring to the "Chiros", in CLINICAL MEDICINE (January), also the articles referring to the subject in "Let's Talk it Over", it occurred to me that going to the true sources of information, to the chiropractor directly, might give us some illuminating information. I secured a prospectus from which I enclose some clippings which show that it is no wonder that these intruders into the domain of medical practice succeed. It would not hurt us "regulars" to learn from them and copy some of their methods in the training of their "students". For instance, how about this on page twenty-six: "He should know the rules for *the development of Personality which attracts* and *holds patients*. He should know how to enlist their loyalty and engage their enthusiasm in *propagating* the principles among their friends . . . how to address lodge or club meetings; how to bring his town or his community to regard him as a real health authority".

Forsooth, who would ever have thought, in our university days, to teach us such essential "salesmanship" of our talents or accomplishments? May be that our predecessors had those opportunities in learning the principles of living and common sense from their preceptors, in whose offices they learned actual practice and how to earn their substance and subsistence. We in our time could not perceive the practice of medicine through the maze of its theories and ideals. Thus we can truly learn from the irregular competitors' methods.

.....M. D.

There follow excerpts from the prospectus which our correspondent refers to.

You got your life to make a good job of it.
Most men, foolishly, make a mess of it.
They, too, stood, like you do now, on the threshold of a great decision.

But they weakened. They vacillated. They played with Fate. They laughed at her warnings.

And then came a day when Fate laughed, and her victims were thrown into the discard.

Getting a Grip on Opportunity.—Who gets the grip?

You know him. The quick, alert fellow who shot out his hand while his next-door neighbor was "thinking about it".

And, ten or twenty years hence, the man who was "thinking about it" is still toiling, day-by-day, at the same old job—railing at Fate and at everything else for his "poor luck", while the alert friend of his earlier years is enjoying the luxuries, the comforts, the independence that that grip on Opportunity brought him. . .

Men of fortune are rarely men of unusual brain-power. They are rarely men of genius. They are rarely men of extraordinary education.

But they are always men of sound commonsense.

Are you going to grip Opportunity at once and leave Procrastination to the other fellow? . . .

Shake off the dust and the cobwebs from those abilities of yours, and get into the Profession of Chiropractic, which offers you the one splendid chance to realize the ambitions of your life; to utilize, to the full, your sleeping talent; and to reap the rewards that come to the man who can get unusual results by his skill and ability.

As a Doctor of Chiropractic you attain a position of standing in your community and neighborhood. You attract the attention of that neighborhood by the remarkable things which your Chiropractic skill will enable you to do in dealing with disease conditions. You get a just recognition for that skill in the shape of monetary reward.

And that monetary reward will open up to you avenues of comfort and leisure and freedom and independence which are frequently denied to the man who must depend on somebody else's whim for his daily bread and butter. . .

Sanitation and Hygiene.—Inasmuch as the Chiropractor may truly be called a conservator of public health, (How come?—ED.) it is of much importance that he be familiar with all scientific developments which tend to lessen the risks to human life, and which tend to make the life of man comfortable and safeguarded.

Frequently, the Chiropractor is called upon to address clubs and social meetings on subjects pertaining to the health of his community as a whole. Rest, recreation, exercise, cleanliness, dress, ventilation, heating, and hundreds of other topics are subjects on which many will seek his counsel and advice.

The Chiropractor's patients should be made to feel that he is fully competent to act as their guide and advisor on questions pertaining to their daily lives. . .

Applied Psychology.—Chiropractic, more than any other system of healing, establishes

beyond dispute the intimate relationship between the body and the mind; and between physical function and mental function. . .

Mind, then, and the laws of mental functioning, and the application of these laws to the affairs of life, must be studied carefully. . .

Advertising and Salesmanship.—The Metropolitan College believes firmly that every Chiropractor should be a master salesman.

He should be thoroughly qualified to make the Science he follows, and the services he renders to his patients, so clear and so commonsense, that the patient should never again waver as to the relative merits of Chiropractic and any other system of healing [Sic! —Ed.]

He should be prepared to take up missionary work of acquainting the whole world of the principles and practice of Chiropractic; of defending Chiropractic against the slanders and falsehoods of its enemies and opponents.

He should know the rules for the development of Personality which attracts and holds patients. He should know how to enlist their loyalty, and engage their enthusiasm in propagating the principles amongst their friends.

He should know how to announce himself in his local newspaper, in circulars, pamphlets, booklets; how to address lodge or club meetings; and how to bring his town or his community to regard him as a real health authority. [Italics are ours.—Ed.]

The Chiropractic student is taught how to write copy, make layouts, select type and paper, how to select suitable illustrations and cuts, and all the other details that belong to good advertising and salesmanship. . .

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[We hardly think it necessary to comment extensively on these excerpts. Surely, it must be conceded to our friends, the antagonists, that they do know how to put things over. The medical profession has been pretending to "sit pretty" for so many decades and centuries that it has gotten into a rut as regards salesmanship. In the past century, and during these first twenty-two years of the present one, more than ever before in history, there have been outsiders, interlopers, with plausible and impressive (to the ignorant) assertions based upon ideas, not on facts, who were enabled by their fluent sales talk and by their impudent self-assurance to inveigle people into joining their followers. The medical profession thereby was the loser in many ways.

We do not mean to say that these losses were entirely unmerited. It is true, there always have been numerous members of the medical profession who were conscientious, persistent and careful students and who tried honestly to improve and extend their ability to heal the diseased bodies and minds of their clients. A great many, though, there are and always have been who were content with what they had learned in college and who believed that they would not have to open a book or read a journal after that. It is unavoidable that those self-complacent medical men not only did not advance but that they retrogressed, that they became less and less able to attend to the duties which they had assumed. It was equally inevitable that this unfortunate state of affairs reflected upon the medical profession as a whole, that the latter was judged by the shortcomings of some of its members.

We may admit, more or less complacently, and with Uriah Heep humility (which is hypocrisy and pretense) that we are not perfect; but then, nobody is. That will not get us anywhere. It will be far better for us to make the admission, not in false humility but with out hands clenched and with the firm determination to get a good bit nearer to perfection by remedying matters in which we fall short, by improving conditions that are within our sphere of influence, by increasing our own personal individual stock of learning and of ability. If every single physician in this great country of ours will do his darndest during the next five years, studying and working, attending to his patients to the very best of human ability; if, in addition, he will develop a confident, optimistic attitude, realizing that the influence of mind is great, it will be a wonder if immense progress is not made in the course of those few years and if the standing of our beloved profession will not increase mightily and the good that we can accomplish will not be enhanced thereby a thousand fold.—Ed.]

A sound mind in a sound body is a short but full description of a happy state in the world—Locke.

MAKERS OF DRUG ADDICTS

Newspaper reports are not infrequent in which investigators, who may or may not be connected with the Bureau of Investigation, U. S. Department of Justice, calmly accuse druggists and physicians of contributing to the acquirement of drug addiction on the part of many unfortunates. Quite recently, the *Detroit Times* published an article over the signature of William J. Burns, Director of the Bureau of Investigation, U. S. Department of Justice, in which there appeared this statement: "We find druggists everywhere willing to take the last shilling of the dope addict and to continue looking for new customers." As is quite proper, the retail drug trade resents this wholesale condemnation,

and Mr. S. C. Henry, the secretary of the National Association of Retail Druggists, addressed a letter to the Attorney General, Mr. Harry M. Daugherty, at Washington, D. C., remonstrating against the slander to which druggists have been exposed and asserting that Mr. Burns' statement is wholly and unqualifiedly false.

The N. A. R. D. Journal also comments upon the matter editorially and refutes the baseless charge of universal trafficking in narcotic drugs, the charge of which was laid against the pharmaceutical profession by uninformed public officials and by a sensational press.

It is scant comfort for our friends, the druggists, to call their attention to the fact that physicians are frequently accused with like injustice and with an equal want of foundation, of being the cause of drug addiction in a great many cases. It is quite customary to assert that physicians hand out prescriptions for "dope" and for alcoholics for all the money that may be in it and that many physicians have waxed rich by such illegal practices.

The thinking and level-headed reader of newspaper reports will take these allegations for just what they are—cheap, clap-trap, scandal-mongering yellow journalism. While it must be realized that some few druggists have been found to sell drugs over the counter, the dispensing of which is restricted by law, and while some few physicians have been convicted of selling prescriptions for narcotics and alcoholics illegally, it needs no asseveration, being merely a matter of course, of common decency, of pride in one's profession, that the vast majority of pharmacists and physicians abide by the decision of the government and by the rules and regulations that have been issued restricting the prescribing and the selling of these drugs. To accuse a class of men like pharmacists and like physicians categorically of breaking the law habitually and of deliberately injuring their fellow citizens for the sordid gain of tainted money, is a damnable bit of dishonesty that can not be resented too forcibly. It is worse than mere impertinence; it is a false accusation that should be thrown back at its originators who should be made to eat their words.

Thinking people know that pharmacists and physicians belong to the most law-abiding class of citizens and that they do not stoop to such criminal practices as Mr. Burns charges.

THE BEE IS SLANDERED

Recently, we received a letter which the writer forgot to sign (although he concluded it "Yours truly"), and in which he said:

"It may be true that the parasite that causes diabetes mellitus lives in honey, because bees gather much of their honey from out-door closets, stables, sewers, and other filthy sources. I hardly think that they have the power to gather from such sources without carrying away filthy and dangerous germs and parasites. This is my own conviction, and I believe that it has truth enough in it to make it worth while for men skilful with the microscope to investigate thoroughly and find out if this theory of mine is true or not.

"Honey that is made by bees that are fed largely on sugar might not be infected by anything injurious. I am speaking only of that honey which is made in the natural way, and without any artificial feeding of the bees."

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We had always harbored the opinion that the busy little bee, at least under conditions of ordinary health, worked with an entirely unobjectionable and sterile technic and that its product, the delectable honey, might be eaten and otherwise used with perfect security.

Of course, there are instances where the bees become ill and, naturally, infect their honeycombs. There are stringent laws, however, governing such circumstances and officials of the Bureau of Agriculture must be notified promptly of such occurrences. Usually, they order certain hives to be destroyed and the honey made harmless by boiling.

That perfectly self-respecting and honorable bees should stoop so low as to forego their flirting with honeysuckles, lilies and all the other beautiful flowers that bloom far afield and give up their sweetness to the little visitors, and that they should be content to "gather much of their honey material from outdoor closets, stables, sewers and other filthy sources" is as new to us as it must be to our readers.

Mind you, we do not offer this alleged theory for any scientific merits, which it decidedly does not possess. We merely reproduce it as an instance of the hopeless vagaries of which some poorly-regulated minds may become guilty.

Nobody who ever lived in the country and who has observed the bees at work has found them frequent the shady and filthy places of the underworld of farms. "Outdoor closets, stables, sewers and other filthy sources" are endowed with a severe and strict taboo by the ladies of the bee world. It is the ever-to-be-swatted fly that is guilty of the offenses

charged against the bee by our correspondent. The bee—charming little lady, especially when she does not sting—is blameless.

RECENT EPILEPSY STUDIES

A few months ago, Chicago papers contained reference to certain experiments that are being carried on in the physiological department of the University of Chicago by Dr. Anton J. Carlson, head of the department, assisted by Doctors Luckhardt and Dragstedt. According to the newspaper account, "it was determined early in the researches that idiopathic (inherited) epilepsy was caused primarily by the malfunctioning of the parathyroid glands."

"Experiments on dogs demonstrated that the removal of these glands quickly resulted in death. Death could be avoided, however, by resorting to artificial means by which the functioning of the glands was virtually duplicated.

"Doctor Luckhardt resorted to simulating this functioning by injection into the victim large quantities of Ringer solution. (This is an alkaline solution consisting of sodium chloride, water and other elements which make up a solution similar in its chemical structure to human blood.)

"This method, by a thorough flushing of the kidneys, is believed to remove bacteria caused by malfunctioning of the parathyroid glands and so to prevent or control epilepsy. [Newspaper medicine is slightly mixed.—Ed.]

"Doctor Dragstedt's method was that of the dietician. By a careful diet of carbohydrates, to stop putrefaction in the intestines, together with quantities of milk sugar, virtually the same results were obtained as by the diuresis method."

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It goes without saying that we promptly communicated with Doctor Carlson, asking for further information on the subject, and we received, in reply, a circular letter containing a summary of what had already been accomplished. This letter is as follows:

"1. Dr. L. R. Dragstedt and Dr. Amo B. Luckhardt succeeded quite independently of one another and by different methods of conserving the life of completely thyroparathyroidectomized dogs. Both came practically to the same conclusions as to the cause of the heretofore certain death.

"2. Whereas, some animals have now survived as long as 18 months and are apparently normal, we can demonstrate that, under certain conditions, the animals show convulsive seizures closely related to if not identical with grand-mal attacks of idiopathic epilepsy as seen in man. The very conditions which induce convulsive seizures of the grand-mal type in the human epileptic induce or predispose to similar seizures in these dogs. They are:

"(a) A high meat diet—especially if meat is spoiled,

"(b) Constipation (or inflammatory enteritis),

"(c) Intestinal putrefaction,

"(d) Muscular exercise to point of fatigue,

"(e) Marked emotional excitement and especially sexual excitement,

"(f) The oëstrus cycle (menstruation),

"(g) Pregnancy.

"3. The above attacks can be prevented or rapidly controlled by the dietary and other measures described in the publications cited.[1] On these grounds, the undersigned are attempting to control idiopathic epilepsy by the same dietary and drug treatment which so perfectly control the convulsive phenomena of the animals above referred to.

"4. The scientific publications dealing with the problem which we have been investigating are appended below. We are ourselves just beginning to develop the methods of treatment for man and are not, therefore, in a position to propose a well worked out system of treatment.

"Fraternally yours,
Lester R. Dragstedt, M. D.,
Amo B. Luckhardt, M. D.

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We appreciate Doctor Dragstedt's promise to keep us informed of his progress, and we hope to be able, from time to time, to pass on to our readers any information that may become available.

The problem of the epilepsies is so difficult and so important that we feel constrained to watch closely for any progress that can be made. Our own experiences incline us strongly to hope for definite results from endocrine therapy as the leading treatment, more especially parathyroid substance and anterior pituitary. It is quite evident, that we cannot be satisfied with such an indication, however clearly it may be indicated. A strict and careful regulation of diet and of proper habits of personal hygiene are essential. Moreover, the general habits of the patients require close supervision and regulation. Indeed, the physician should remain in constant touch with his patient and should regulate virtually his entire life and activities.

[1]1. The Prevention and Control of Parathyroid Tetany, A. B. Luckhardt and Rosenbloom, *Proc. Soc., Exp. Biol. & Med.*, 1921, XIX, pp. 129-130.

2. The Relation of Parathyroid Tetany to Intestinal Bacteria, Dragstedt, *Amer. Jour. of Physiol.*, Vol. 59, 1922, p. 483.

3. The Control and Cure of Parathyroid Tetany in Normal and Pregnant Animals, Luckhardt and Rosenbloom, *Science*, Vol. 56, July, 1922, p. 48.

4. The Recurrence of Parathyroid Tetany in Completely Parathyroidectomized Animals During the Oestrus Cycle. Luckhardt and Blumenstock, *Science*, 56, Sept., 1922, p. 257.

5. The Pathogenesis of Parathyroid Tetany. Dragstedt, *J. A. M. A.*, 1922, Vol. 79, pp. 1593-1594.

6. The Preservation of the Life of Completely Parathyroidectomized Dogs by Means of Oral Administration of Calcium Lactate. Luckhardt and Goldberg, *J. A. M. A.*, 1923, Vol. 80, pp. 79-80.

DR. C. A. BRYCE

Many of our readers have been greatly interested in the contributions from the pen of Dr. C. A. Bryce, formerly editor of *The Southern Clinic,* who writes from a practical experience of many years to whom time has vouchsafed a kindly and cheerful philosophy that goes far to help solving the many difficult problems confronting physicians. Being convinced that the ancient adage is fully justified, namely, that the young men are for war, for the active life's work, while the old should be approached for counsel, we have arranged with Doctor Bryce to supply us with regular contributions in which he will delve into the life of the physician, not limiting his discussions to problems pertaining strictly to the practice of medicine but also touching upon other questions that interest medical men, either as physicians or as citizens, family men and as just folks. We are convinced that Doctor Bryce's collaboration will be welcomed by many. We ourselves expect confidently much enjoyment from his periodical contributions, much benefit and help.

The first one of Doctor Bryce's regular articles appears in this issue of CLINICAL MEDICINE, on page 291. It refers to a question that has, seemingly, been answered definitely long, long ago; concerning which the attitude of clinicians, obstetricians, teachers, preachers, and moralists of all walks of life is quite clear. Yet, among the people most concerned, exceptions are always claimed for individual instances, and it is especially the young physician, he who is trying hard to establish himself in practice and to make for himself a good name as a capable and honest physician, who is approached by the tempter and to whom the proffered arguments, taking the form of much-needed silver and gold, are all but irresistible.

When it comes to the question: Shall abortion be performed in any special case? the only safe way is to say: Never, unless to save the life of the mother, and then only after proper consultation and only by the attending physician with the assistance of his consultant or by the latter. If two physicians agree that abortion is necessary, the operation may be performed, for the stated purpose. In all other cases, it should be refused.

Fortunately, the scorn and contumely with which the unmarried mother was wont to be regarded are being moderated. It may be argued that, after all, she but obeyed the impulse that Nature had implanted in her and that, obeying Nature's call, she could not have sinned. Under any form of civilization and any moral code, such a plea may not be advanced properly. If society agrees that certain things are not calculated to promote its welfare, if it decides that they conflict with its religious views, those living under the laws of that society must conform to its dictates, "Other peoples, other customs." In some parts of the earth, among some aborigines, the indiscriminate congress of sexes is not discouraged; in most cases, however, at least an understanding of intended wedlock is required. Without it, pregnancy in the unmarried woman is discountenanced more or less severely.

Under our code of ethics, that of the Caucasian races, society has decreed that pregnancy may be incurred properly only under certain restrictions, namely, by the union of a woman with her lawful husband. Every other pregnancy sins against the social, moral and religious custom and is condemned. However, the interruption of such an illegal pregnancy sins equally against social, moral and religious customs and must be looked upon as a wrong, with the one exception mentioned. The code of medical ethics is very strict in that respect, and no physician can run counter to its dictates without serious harm to himself. Indeed, in many cases he will indirectly harm his client likewise.

What, then, shall be done in cases in which the occurrence of pregnancy would be a calamity? This may be the case not only in unmarried women, but is actually so in many married wives to whom pregnancy and confinement, the raising of additional children spells disaster. Moreover, there are cases where pregnancy and child birth are against the best interests of society, especially in the case of defectives who should be prevented from procreating. The solution by means of birth control, which has been proposed seriously and sincerely, is condemned by many. In last month's issue of CLINICAL MEDICINE (page 195) Dr. E. H. Pirkner criticized it absolutely. Still, it is but natural that opinions should differ widely in this matter.

We do not intend to discuss birth control on this occasion. It would require a special article; in fact, more than one article, to do justice to this problem that is agitating the minds of many people so seriously. Our present question deals solely with the performance of abortion. Here, fortunately, the consensus of opinion is without qualification against the

taking of life; the one exception only being granted. To young physicians, especially, we would urge Doctor Bryce's counsel for careful consideration: Do not dally with the temptation; do not permit yourself to argue the question. There is only one thing to be done: Refuse all requests, unless it is a question of saving the mother's life. And, then, undertake this serious operation only after counsel and with proper assistance.

For the young woman who is "in trouble," various ways are open today which will offer her opportunities to be saved from disgrace and which will permit her to carry her baby to term and then to take up her life again, without the handicap of the Hester Prynne's of other days.

This I learned from the shadow of a tree
That to and fro did sway upon a wall—
Our shadow-selves, our influence, may fall
Where we can never be.
—Anna E. Hamilton.

EYTINGE IS OUT AGAIN

Many of the older subscribers of CLINICAL MEDICINE will recall several articles and editorials which appeared, some years ago, with reference to the case of Victor Louis Eytinge.

At that time, Eytinge was a "lifer" in the Arizona State Prison. On flimsy evidence, he had been convicted on a murder charge. It was later proven by expert medical testimony, as set forth in CLINICAL MEDICINE, that the evidence was faulty and that a miscarriage of justice had put Eytinge behind the bars for life.

In ninety-nine cases out of a hundred, this would have ended the matter so far as the unfortunate prisoner was concerned; but not so with Victor Louis. His first effort was, to build up his health. Having gone to Arizona condemned to die of tuberculosis, Mr. Eytinge put up a marvelous fight in prison against the white plague, handicapped by lack of proper food and funds.

He organized and promoted the activities of the prisoners in selling souvenirs and, in this way, furnished himself and others with funds with which to build up their health. In this manner, it developed that this remarkable prisoner was possessed of unusual talents in the art of writing convincing letters. His genius in this direction gained national recognition and the name of Victor Louis Eytinge became known wherever better business letters were discussed. A large and remunerative business in planning letter campaigns was built by Eytinge within prison walls. His fame extended into every nook and cranny of this broad land of ours. Hundreds of opportunities waited for him pending his parole from prison.

Thousands upon thousands of letters from all over the United States were written to Arizona officials pleading for the release and pardon of Eytinge. This campaign extended over a period of sixteen years. During this time, Eytinge had become engaged by correspondence to Miss Pauline Diver, herself a business woman of note.

Finally, the persistence of Victor Louis Eytinge has been rewarded and he has not only gained his freedom, but has realized his ambition in marrying Miss Diver and of stepping into a $10,000-a-year job.

Congratulations to the happy couple are in order and all honor is due to a man of such purpose.

More power to you, Mr. Eytinge. May many years of happiness and useful activity be yours.

TRAINING SCHOOL FOR LABORATORY TECHNICIANS

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Leading Articles

Arsphenamine Treatment of Spirochetic Gingivitis[1]

(Pyorrhea Alveolaris, Riggs' Disease)

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THE importance of gingival infections is universally recognized by both the dental and medical professions, not only in relation to the purely local effects in the mouth, but also in relation to focal infection or the development of general pathological conditions, as anemia, acute and chronic arthritis, neuritis, vascular, myocardial and renal degenerations and inflammations.

In the majority of cases, the disease apparently begins on the surface of the gums (a *gingivitis*), infection being aided by mechanical injury of the tissues and neglect of oral hygiene. When neglected, the inflammation advances along the root of the tooth into the alveolus, destroying the tissues of the peridental ligaments and producing thereby a series of suppurative cavities or pyorrheal pockets, exposing the cementum and finally causing its absorption (*chronic suppurative pericementitis*) with suppuration, necrosis and absorption of the alveolar processes (*chronic suppurative alveolitis*), resulting in the loosening and loss of teeth.

These changes may be, and usually are, associated with abscesses at the roots of one or more teeth (apical abscesses), although these infections are usually caused by direct exposure of the root canals by cavities or, in the absence of these, possibly, in some cases, by infection of the periapical tissues by organisms brought to the parts by the blood or lymphatic channels.

Etiology and Diagnosis

The mouth constantly harbors various bacteria, fungi and some protozoa, notably different varieties of spirochetes. Among the bacteria, staphylococci, streptococci and pneumococci are usually to be found, and all of these are capable of inducing low-grade inflammatory changes when their invasion into the tissues of the gums is aided by abrasions due to picking and brushing the teeth, accumulations of tartar or minute injuries from other causes. Colonies of bacteria growing between teeth in tartar deposits may produce sufficient amounts of toxins to cause superficial erosions and thereby aid infection of the deeper tissues. As shown by Smith and Barrett[1], endamebas may be present and, by means of their migratory and digging movements, carry bacterial and spirochetic infection into the deeper tissues.

In all cases of chronic suppurative gingivitis, pericementitis and alveolitis, commonly designated as pyorrhea alveolaris, or Riggs' disease, bacterial infection may be said to play an important part. In many cases, however, bacteriological examination shows such a preponderance of spirochetes, with or without fusiform bacilli, that these organisms are to be accepted as playing the major role in infection. Endamebas may be found in both bacterial and spirochetic types of the disease, though they are not to be considered a cause of the infection but as important secondary invaders capable of carrying infection into the deeper tissues. Various fungi are usually found, but their importance has never been estimated and it is highly probable that they are of secondary importance.

The proper treatment of pyorrhea alveolaris, therefore, requires a bacteriological diagnosis for the purpose of determining whether the infection is purely *bacterial* (the usual normal or but slightly increased flora of spirochetes and fungi being also present) or predominantly *spirochetic* (some bacteria being always present). At the same time, a search is made for endamebas; for, if they are pres-

[1]From the Research Institute of Cutaneous Medicine, Philadelphia, Penna.

[1]Smith, A. J., and Barrett, M. T. In Musser and Kelly's "Practical Treatment," Vol. IV, 1917, p. 581.

ent in increased numbers, adequate measures for their destruction are required. In the majority of cases, these examinations disclose an increase of both, bacteria and spirochetes, and local medicinal treatment should be directed against both of these in addition to the usual surgical procedures.

For purposes of differential bacteriological diagnosis, the examination of simple smears of gingival material is sufficient. A clean microscopical slide is employed. A small drop of water, saline solution or saliva is placed in the center and material is removed from the gums with any suitable instrument, as a scaling tool, platinum wire, small swab, etc. An effort should be made to secure material from the pockets if any are present, and, as a general rule, preparations should be made from several different areas. The material is mixed in the drop of diluent and spread out into a thin smear. This is allowed to dry in the air, followed by fixation with heat by drawing the preparation several times through the flame (film side up), after which the smear is flooded for one minute with carbol-fuchsin diluted 1:5 with water. The slide is now washed with water, dried and examined with the oil-immersion lens for the bacterial and spirochetic flora.

Some bacteria, leptothrix threads and an occasional spirochete are to be found in smears of normal gums. But in gingivitis, enormous numbers of bacteria and fungi, with only an occasional spirochete, may be found, and these may be interpreted as predominantly bacterial infections. In some cases, enormous numbers of spirochetes are found along with bacteria and fungi, and particularly fusiform or banana-shaped bacilli, and these are predominantly spirochetic infections. Most cases show a combination of these, that is, enormous numbers of various bacteria and spirochetes with leptothrix threads, pus cells, detritus, etc.

Endamebas may be found in stained preparations and, indeed, with experience, the complete examination for bacteria, spirochetes and endamebas may be so conducted. After removal of the gingival material and its admixture with the drop of diluent on the slide, a cover glass is adjusted and the preparation examined with the light-diaphragm well cut down, as in examining urine for casts and cells. If stained preparations are to be used (and these are particularly convenient because the dentist may prepare the smears and, after allowing them to dry, forward them to his laboratory for examination), the method is the same as described, except that, after staining for a minute with 1:5 carbol-fuchsin, the dye is washed and the smear stained for an additional minute with methylene blue, followed by washing and drying. The examination is made with an oil-immersion lens.

Treatment

In the treatment of spirochetic gingivitis, pericementitis and alveolitis, the local application of solutions of arsphenamine or neoarsphenamine has proven very efficacious. Bacterial infections are usually treated with iodine, one of the silver or mercurial preparations, etc., and endamebas removed by the local application of solutions of emetine.

Contrary to usual impressions, both, arsphenamine and neoarsphenamine are known to possess spirocheticidal activities *in vitro;* experiments by Schamberg, Kolmer and Raiziss[2] have shown that spirocheta pallida suspended in saline or broth is killed by 1:2000 and higher dilutions of arsphenamine. Noguchi and Akatsu[3] and Noguchi[4] found that 1:7500 dilutions destroy this spirochete. In so far as the mouth spirochetes are concerned, the activity of arsphenamine is reduced by the presence of pus and detritus, but mixtures of equal parts of gingival material and 1:100 to 1:200 dilutions of arsphenamine or neoarsphenamine yielding final dilutions of 1:200 to 1:400 result in almost immediate loss of motility of the mouth spirochetes.

Clinical experience and, especially, the reports by Dr. Barrett show quite conclusively that the local application of 1-percent solutions of arsphenamine exercises a prompt curative effect in spirochetic gingivitis. Neoarsphenamine, being somewhat less spirocheticidal, should be used in a 2-percent solution. Either drug may be applied to the gums as a powder, but it is more difficult to treat the pockets by this method.

Arsphenamine and neoarsphenamine in these strengths do not produce irritation of the tissues or undue pain; the swallowing of the solution as ordinarily applied is without harm, as large amounts may be swallowed without the slightest untoward effects. The metallic taste left in the mouth after treatment is readily corrected by spraying over the tongue and gums some pleasant solution of the aromatic oils, as cinnamon water.

Arsphenamine should be used in the usual alkaline solution and, when properly dispensed

[2]Schamberg, J. F., Kolmer, J. A., and Raiziss, G. W., *Amer. Jour. Syph.*, 1918, 1, 1.
[3]Noguchi, H., and Akatsu. *Jour. Exper. Med.*, 1916, 25, 361.
[4]Noguchi, H., *Amer. Jour. Syph.*, 1918, 1, 261.

in ampules sealed *in vacuo*, the solution keeps for several weeks. A slight change in color does not indicate a reduction in spirochetic activity or a dangerous increase in toxicity. Solutions of neoarsphenamine are prepared in distilled water and may be dispensed ready for use in ampules sealed *in vacuo*. Experiments have shown that the trypanocidal activity of solutions of arsphenamine is slightly reduced after one month and, for best results, it is well not to use solutions of either arsphenamine or neoarsphenamine that are more than 4 to 6 weeks old.

As a general rule, 1 Cc. of either solution suffices for a treatment. After cleansing the gums and pockets, the solution is best applied to the gums, between the teeth and in the pockets, by means of a small syringe fitted with a small, flexible and curved needle. An effort should be made to fill each pocket as the needle is withdrawn.

The usual case will require a series of 6 to 10 daily treatments, followed by additional treatments at lengthening intervals, according to conditions. If there is reason to suspect bacterial activity, iodine, mercurophen or silver solutions should be used conjointly. A convenient form of treatment of these double infections consists in using a mixture of equal parts of 1-percent solutions of arsphenamine and 1:1000 solution of mercurophen. The latter keeps indefinitely at room temperature and the mixture may be made as required in the syringe by drawing equal parts of both and applying to the tissues as described.

The Lipoids

By H. ISCOVESCO, Paris, France

EDITORIAL COMMENT—Doctor Iscovesco's researches appear to furnish light in the apparent muddle in which we find ourselves regarding the internal secretions, their physiological importance and their clinical application. His explanation, that certain ones of the assumed or alleged internal secretions are actually lipoids, is promising. It would clear up some seeming contradictions. We shall be interested in watching the further work done on this problem.

THE word "lipoid" has a physiological meaning and, like the word "ferment," is not confined to any well-determined chemical group. The lipoids are really functional entities which have forced themselves upon us. Our actual definitions and classifications of those organic substances that have the appearance of fats are as important as were those of the albuminoids. In the same way as we never talked of albuminoids but of proteins (in which are included the albumens), the globulins, the protamines, etc., it would be better to designate as *adipoids* a group of substances which includes the true fats, the acid fats, the waxes, the lipoids, the cholesterids, the protagons and the cerebrosides.

It has become customary to designate under the name of lipoids everything that is extracted from the tissues and humors of the organism by means of solvents such as ether, chloroform, benzol, etc. But, in addition to the adipoids, the first extractions remove many impurities such as proteins, coloring matter, and even some salts. It is only after several precipitations and further treatment with appropriate reagents that a pure lipoid is obtained, or at least a group of lipoids in which one of them is so largely in excess that one may ignore the rest. The final product is a substance which has more or less the appearance of a fat, but it differs completely from fat in its biological properties and also in the chemical constitution of its molecule. In fact, a lipoid is more a fat than is vaseline, in spite of its physical appearance.

Some Points About Lipoids

At the present time, the following points may be considered as settled:

1.—The lipoids are adipoids. Their molecule, which is much larger than that of the true fats, contains one or several radicles of the higher acid fats, often glycerophosphoric acid, a nitrogenous base which is variable and characteristic of the lipoid in which it occurs, sometimes sulphur in place of the phosphorus, or even sulphur and phosphorus together. It is for this reason that they have been classified as phosphatides, sulphatides and cerebrosides, which latter contain neither sulphur nor phosphorus.

In short, while the true fats are always ternary substances (C, H, O.), the lipoids are always at least quaternary (C, H, N, O.) and more often than not quinternary (C, H, O, N, P.).

2.—Cholesterin is not a lipoid any more than are alcohol or phenol or certain bases of organic origin which are soluble in alcohol or

organic origin which are soluble in alcohol or ether. Cholesterin is an adipoid. It is a ternary substance and has an alcohol function. It always accompanies the lipoids and seems to have a balancing function or a neutralizing action with regard to these substances, attenuating or compensating some of their effects.

3.—Pure lipoids may be prepared which are absolutely free from all trace of proteins. It is with such pure lipoids that I have carried out my researches.

4.—Lipoids are not colloids, although they may give fine emulsions with water. They are no more colloids than are sulphides of arsenic or iron hydroxide, in spite of the fact that in certain conditions during their preparation they may be found in the form of colloidal suspension.

5.—Overton thought that all cellular changes were conditioned by the lipoids. It is now known that this opinion went too far and that liposolubility intervenes as a factor only in certain conditions, which may be considered as exceptional, as in narcosis, for example.

Functions of Lipoids

Nothing definite is known regarding the function and the importance of the lipoids in immunity. There are facts in great number, a cloud nucleus of science. It is probable that there is no general law governing this condition. It is impossible to synthetize.

Certain lipoids are hemolytic, others are antihemolytic. I have myself shown, with Foucaud, that the red corpuscles contain lipoids which protect them against the soaps and saponin. Certain microbes contain hemolytic lipoids. Kyes' cobralecithid was the subject of some very beautiful research work on the part of Fourneau and Delezenne, who characterized it as an anhydride of the monopalmitophosphoglyceric ether of chlorine. It is then of lipoid type.

The lipoids have no constant function in hemolysis: it is all a question of kind. All depends, in fact, on the conditions and on the different substances with which the lipoids can enter into combination. The case of cobralecithid is perhaps not unique.

The lipoids of certain microbes are toxic. Some of them, injected under the skin, provoke intense inflammatory reactions. This is the case with certain lipoids extracted from the tuberculosis bacilli.

It is not certain that the lipoids are antigens.

It appears that they play an important part in the Wassermann reaction.

Calmette, Massol and Guérin have pointed out that animals whose serum is rich in lecithin are less liable to tuberculosis than those whose serum is poor in that substance. Regarding the fixation of toxins, generally speaking, there is no law: it is again a question of kind. There are lipotropic toxins, just as there are alkaloids which are liposoluble or otherwise. All depends, then, on the physicochemical properties of the toxin under consideration.

It seems to be almost certain that, in certain cases, lipoids, either pure or combined with certain ether substances, may play an important part in some of the mechanisms of immunity. All depends on the case. This is all that can be positively affirmed, and it is extremely gratifying. Is it possible to formulate a general law on the part played by the inorganic salts in the organism? Certainly not; for all depends upon the salt and the case under consideration. It is sufficient to know that the salts play a capital role in the phenomena of life, leaving us to study each particular case thereafter. It is exactly the same thing with lipoids.

Origin of Vitamine Studies

The experiments of Hopkins are very often cited as the first which demonstrated the absolute necessity of the presence of lipoids in food. It was really Wilhelm Stepp, whose first researches date from 1909 and were finished in 1911, who raised the question and showed the way, even to the American authors who added some complementary details to the doctrine of Stepp. But they created a new word: Vitamine A, or Vitamine liposoluble. First Stepp and then Hopkins (a year later) proved that it was impossible to maintain an animal alive, or to permit of the growth of a young one, with a regimen which was rigorously deprived of all its lipoids. The researches of Néville, MacArthur and Luckett, McCollum and Davis, Lafayette B. Mendel, Osborne and Mendel, Hans Aron, Durlach, Heubner, Roehl, etc., confirm the experiments of Stepp: Any regimen without lipoids is deficient.

It must, however, be taken into account that, in order to deprive a tissue entirely of its lipoids, very prolonged extractions are required and, very often, a series of solvents. It is to technical faults in making the extraction that certain contradictory results published by some American authors must be attributed. The only argument which can be brought forward for the existence of Vita-

mine A (fat-soluble) which, it may be stated, would be removed by the extracting solvents at the same time as the lipoids, is the very small quantity of lipoids that it is necessary to furnish in order to complete the regimen. But this argument has no value whatever. It it necessary only to consider that, the organs of a rat containing altogether a few centigrams of lipoids, a very small quantity of butter or hepatic lipoid would suffice to be greatly in excess of the quantity of lipoids contained in all its organs. Nearly all the experiments of this kind are carried out on rats. We also know from Rochl's experiments that the organism is incapable of synthetizing the characteristic lipoids of its organs from inorganic phosphorus, however much of the latter be supplied to it; and we know from another source (Heubner) that growth is best promoted by organic phosphorus.

Animals submitted to a regimen deprived of lipoids can be preserved by the addition to their food of butter, cream, a little codliver oil or lipoids from the kidney, pancreas, liver, muscles or other organs. On the other hand, neither lecithin nor cerebron nor cephalin possess this offsetting property.

Lipoids play a leading part in the nutrition of the cornea and in the development of the skeleton. Some time ago, the Japanese doctor Mori had noticed the frequence of xerose of the cornea and of keratomalacia in children fed exclusively on vegetables. These children recovered perfectly when given codliver oil. Goldschmidt and A. Franck were able to reproduce in rats these serious troubles of the cornea and conjunctiva with a regimen deprived of lipoids.

Regarding skeletal troubles, the researches of Mallanby are not conclusive, since the rachitis in his young dogs was provoked by the absence of both lipoids and lime. It is true that the subjects recovered on receiving codliver oil. But, since the war, many cases of osteomalacia have been observed in young children who received, as fatty food, only a kind of vegetable margarine. These facts have been observed by Bloch at Copenhagen, Harriette Chick and Elsie J. Dalyell at Vienna. In all these cases, a small quantity of codliver oil was sufficient to obtain a cure. Now, I showed in 1914 that the activity of codliver oil was due solely to the lipoids contained in it and that it is necessary only to remove, by precipitation with acetone (at low temperatures), the lipoids, for it to lose its specific properties.

For a great number of English authors and for the commission delegated by the Lister Institute and the Medical Research Committee, the lipoidic substances and the fat-solubles play a capital role in the development of the skeleton and are given the name antirachitic substances. But these conclusions are based on the researches of Mallanby, which do not carry absolute conviction.

In any case, the lipoids are indispensable for life and for growth; that is certain, and it was first demonstrated by Stepp. It appears that, for the adipoids as for the proteids, the organism has not only quantitative but also qualitative needs, and that, just as it is incapable of synthetizing certain amino acids, it is incapable of synthetizing the stearines and certain of the highly differentiated lipoids.

Lipoids Not Only General But Specific

There is more to be said. My researches have proved that the lipoids play not only a capital role in the general development of the organism, but that certain lipoids exercise a local influence on certain organs. It is these facts (the influence of certain lipoids on the nutrition and growth of certain organs, to which I was the first to call attention) that I shall now set forth.

Here arises an important question. Do certain organs contain lipoids which are specific and characteristic for the organ under consideration? We can at once reply in the affirmative with respect to the heart, the liver, the placenta, the corpus luteum, the brain and the thyroid. Erlandsen has extracted from the heart a mono-aminomono phosphatid containing an animal base (amino biogene), which is found nowhere else and which is charactertistic for that organ. I have isolated this same lipoid and have found that it has marked exciting and cardiotonic properties. The corpus luteum contains a lipoid which is a pentaminodiphosphatid (Hermann), which is found nowhere else in the organism and is characteristic. The placenta contains a lipoid which is very rich in nitrogen and which is characteristic. The kidney contains carnaubon, isolated by Dunham; the pancreas carries vesalthine, isolated by Frankel. The nervous system contains sahidine (Frankel), sphyngomyeline which Rosenheim and Tebb were able to isolate by means of hot pyridine, cephaline, etc. The lipoids extracted from the different organs differ one from the other completely in their physical aspects. Nothing is more unlike the ovarian lipoid than that of the testicle or the thyroid.

Physiological Study

Another and the surest method of differentiating one lipoid from another is the physiological. It is the one I adopted. Just as the physiological method is the only one which enables one to know definitely whether a ferment is glycolytic or amylolytic, so the experimental method which I followed is the only one, until the chemists have finished their study of the lipoids, which permits one to study their physiological role.

My first experiments date from 1908. I used principally rabbits, sometimes also dogs. I always kept controls of the same age and weight and sometimes even from the same litters.

I was able thus to demonstrate that the administration of an ovarian or testicular lipoid to a young rabbit produced, after a certain time, hypertrophy of the ovaries and uterus or of the testicles. While the uterus of the rabbit controls weighed on the average 3.5 to 5 Grams (54 to 77½ grs.), those of the treated subjects weighed from 8 to 10 Grams (123 to 154½ grs.) and even more. In the same way, while the ovaries of the treated subjects weighed (the two together) 0.75 to 1.3 Grams (11½ to 20½ grs.), those of the controls weighed 0.4 to 0.5 Grams (6¼ to 7¾ grs.). Similar results were observed in the case of young males treated with the testicular lipoid.

With the thyroid lipoids (the portion which is insoluble in acetone), I have found after a few weeks (usually twelve to fourteen) not only an increase in the thyroid, but also a slight hypertrophy of the heart and of the genital organs, this last, however, much less accentuated than after giving the ovarian lipoid.

I have shown, after Kepinow, that the administration of the lipoid of red corpuscles to rabbits, which had been abundantly bled, produced a very rapid regeneration of the red corpuscles.

The lipoids of the heart, kidneys and adrenal bodies give results that are absolutely comparable with those obtained with the ovarian and testicular lipoids. In the case of the adrenal bodies, the results are different accordingly as one administers the lipoids of the cortex or the medulla: increase in the heart and the adrenal bodies, slight increase in the size of the kidneys in subjects treated with the lipoids of the medullary portion; no increase in the heart or in the kidneys, slight increase in the adrenal bodies in those treated with the lipoids of the cortex; at the same time, disturbances in the hair system and in skin pigmentation.

As to the liver, I have extracted a lipoid which is not only an excitant to the liver but which exercises a remarkable influence on the growth and weight of the animals treated. If Vitamine A exists, which is very doubtful, it is in the liver lipoids that it is found in greatest abundance. It was these first experiences which led me to inquire whether the action of codliver oil, not only as a promoter of growth but also as a completer of the diet, was not due to its lipoids. My researches on this subject, as I have stated, have fully demonstrated that the characteristic properties of this oil are due to the hepatic lipoids contained in it.

Animals suffering from undernourishment due to a regimen deprived of lipoids recover very rapidly when given hepatic lipoids. Moreover, young rabbits treated with injections of two centigrams of these lipoids daily for 130 days increased in weight 59 percent, while the controls only increased 29 percent.

Confirmatory Observations

Some of the facts which I have observed have been noted by Fellner, who, after injecting ovarian lipoids into young rabbits for two or three weeks, found marked hypertrophy of the uterus with hypertrophied mucous glands presenting lengthened cylindrical epithelial cells. Tests made by this same author, in women with the ovarian lipoids and on men with the lipoid of the testes, gave him results of the same order as those observed in the experiments on animals.

Hermann injected the lipoid of the corpus luteum into three young rabbits and obtained congestion and hypertrophy of the uterus and, at the same time, an abundant serous secretion of the mammary glands. He noted also that this lipoid reduced the rut cycle to two weeks, whereas it is normally a month. He obtained results of the same order on castrated animals. These presented considerable hypertrophy of the uterus and the mammillæ, together with a serous secretion.

All my experiments with the ovarian lipoids have been repeated by Nafilian, who confirms them in every particular. Moreover, he experimented with the ovarian lipoid on pregnant females and observed that not only did the ovarian lipoid cause no trouble in the normal course of gestation, but the young weighed at birth more than those of animals which were not treated. He noted that the mammillæ of the mother who had been

treated were gorged with milk.

The Action of Lipoids

What is the mechanism of the action of the lipoids? Before trying to answer this question, we should give prominence to two important facts:

The first fact is, that the quantity of lipoids contained in an organ diminishes in the majority of cases when the organ is diseased. Whereas one finds in the normal fresh liver of an adult about 60 percent of lipoids (the part which is insoluble in acetone), scarcely 20 to 45 percent is found in the case of Laennec's cirrhosis. The quantity of lipoids is diminished even when the organs are subject to fatty degeneration. Koch and Mann, Carbone and Pighini found an impoverishment in lipoids of the brains of numerous subjects who had succumbed to chronic affections of the nervous centers. The same poverty of lipoids was found by Mott and Barratt, Haliburton, in the marrow of tabetics, by Ambard, Rathery and Schaeffer in renal sclerosis, by myself in the liver in cases of phosphorus poisoning.

A second very important fact which must be recognized is that, when a lipoid is administered to an animal, the lipoid electively goes to and fixes on a determined organ. As far back as 1907, Franchini had shown that lecithin, administered orally to rabbits, was fixed exclusively by the liver and the muscles and not at all by the brain, although this organ is the most lipotropic of the organism.

These experiments also proved that lecithin traversed the digestive tube without being altered by the lipolytic ferments, a fact which has been confirmed by Stassano and Billon as well as by Terroine. Salkowski wanted to know whether the brain, which is unable to fix lecithin that does not enter into its constitution, was able to fix one of the lipoids of which it is constituted. He tried the sahidine of Frankel, one of the most important constituents of cephaline. He was able to determine that, after four days of administering this lipoid orally, the quantity of lipoidic phosphorus in the brain was augmented, that the liver did not fix any sahidine and that this appeared to be fixed for the most part in the brain. In the same way, the ovaries of animals treated with the ovarian lipoid are enriched in phosphorus.

The lipoids act, then, by fixing themselves electively on the organ from which they are derived and, in the case of some of them, also in part on other organs (thyroid, liver).

The experiments on animals and chemical analysis prove that, in certain cases, our organs are unable to synthetize their constituent lipoids and that it is necessary to furnish them with them ready prepared. It is for this reason that I have named these lipoids, "Homo-Integrants." In truth, they are Homo-Aliments.

Therapeutic Use

It was quite natural to try the lipoids in human therapeutics.

Since 1910, I have tried the ovarian lipoid on women suffering from different ovarian troubles and have had the most satisfactory results.

Nafilian has treated 14 cases with the ovarian lipoid. He cites in his work 12 cases of ovariotomy, 15 of menopause troubles, 7 cases of chronic ovaritis, 3 of amenorrhea, 17 of dysmenorrhea, 4 of senility, 4 of chlorosis, 3 of divers troubles attributed to ovarian disfunction, all cured by the ovarian lipoid treatment.

Seitz, Wintz and Fingerhut made tests with the lipoid of the corpus luteum and arrived at the same conclusions as myself. The late Dr. Jacquet, of Saint Antoine, and his assistant, Debat, for a long time had a patient suffering from rebellious acne due to hypo-ovarian trouble and who was cured by the ovarian lipoid. I will not cite again the facts of the same kind noted by Fellner, Hermann, of which I have already written.

It would be tiresome to cite here all the authors who have employed lipoids with most satisfactory results. The hepatic lipoid is employed by many physicians at present in place of codliver oil. Results are more constant and more regular than with the oil. They are, moreover, much more rapid, and one notes important increases in weight after the first month in children or in adults who have a tendency to tuberculosis. The heart lipoid is perhaps the most powerful and the most inoffensive of the cardiac tonics. The lipoid of the red corpuscles, that of the brain, of the kidney, the pancreas, have their precise indications, easy to deduce from experimental facts. It is not necessary to enlarge further on this point.

Deficient Endocrines—Lack of Lipoids

In conclusion, I believe that it is difficult not to admit, at the present time, that, in many cases of deficiency of the internal secretions, it is simply a question of a lack of lipoids. Our organs, in certain conditions being unable to synthetize their own lipoids, must have

them furnished ready prepared.

It is known that the albuminoids are the better assimilated for being taken from a species nearly akin to the animal receiving them; that animal albumens are better utilized than those of vegetable origin.

At the present day, there exist wide divergencies of opinion among physiologists and doctors on the subject of the internal-secretion organs.

While the majority of physiologists consider that we have the right to admit as internal-secretion glands only a limited number, namely, the interstitial gland, the thyroid, parathyroid, the Langerhans bodies and, perhaps, the adrenal bodies, the doctors, in view of the results obtained by opotherapy with powders of organs and tissues of great variety, appear to suppose and even find that there are internal secretions in every portion of the organism. I believe that these divergencies of opinion between physiologists and doctors are entirely reconciled by admitting that, for the most part, when we practice opotherapy, we practice homo-alimentation.

The homo-alimentary theory is practically proved at the present time in the case of the lipoids which fix themselves electively in the organism.

I may add that, if the Vitamines A exist (which is very doubtful), these vitamines are to be found in greatest abundance in the lipoids of the liver and the pancreas.

There are Vitamines A which favor the growth of the whole organism, there exist local vitamines for each organ, and they are its lipoids. It is further possible that the specific nature of the lipoids of each organ is due to the nitrogenous base (amino biogene) which enters into the constitution of their molecule.

Bibliography

Gorland Hopkins: Feeding Experiments, etc.—*Journ. of Physiol.*, Vol. XLIV, 1912, p. 425.
W. Stepp: Experiment. Untersuch. ü. die Bedeut. d. Lipoide, etc.—*Zeits. f. Biol.*, Vol. LVII, p. 135.
Osborne and Mendel: The Butterfat, etc.—*Journ. of Biol. Chem.*, Vol. XVI, p. 423.
Roehl: Experimentelle Untersuch., etc.—Congrès médical, Wiesbaden, 1912, p. 667.
Hans Aron: *Berl. klin. Wochenschr.*, August 16, 1920.
Iscovesco: *C. R. Soc. Biol.*, Vol. LXIV, LXV, LXIX, LXXII, LXXIII, LXXV and LXXVI.

Therapeutic Studies of Certain Incurable Diseases*

Especially of the Neuromuscular System

By PROF. C. J. PARHON, Jassy, Roumania

PROFESSOR BOUCHARD said, with full reason, that therapeutics must be pathogenetic or may not exist at all. This is an axiom that physicians should never lose sight of.

If there still exist many "incurable" maladies, it is because we possess so little knowledge concerning their pathogenesis, while the thyroidal treatment of myxedema shows what pathogenic treatment may accomplish against a disease that is incurable by measures outside of this therapy.

Lacking a well-understood pathogenesis and while awaiting it, it is well to proceed tentatively and guided by biological information. These attempts will possibly lead to a rational therapeutics by elucidating the pathogenesis at the same time.

Let us take, as a first example, primary myopathy, a disease of muscular trophicity, concerning the pathogenesis of which we have, as yet, no exact knowledge. It certainly is not due to a lesion of the anterior horns and it is admitted that the muscular fiber is directly affected. True, the discovery of intramuscular nerve fibers derived from the vegetative system (Boecke) calls for reservation in this view of the matter.

Disease of Muscle Tissue

However, let us admit it to be correct. What would be necessary to establish a good treatment for primary myopathy? First of all, it is necessary to know the biology of the muscular tissue and to learn to which intimate trouble of the trophic process the atrophy of the fiber is due.

We know for certain that, outside of the nervous system, the nutrition of tissues is regulated by the functioning of the endocrine glands, and several authors, such as Oppenheim, Spiller, Fœrster, Claude, have called attention to a glandular origin of the myopathies.

Atrophic alterations in the muscular fibers have been observed after the removal of the thymus (Matti) or after hyperthyroidization (Utterstrom). On the other hand, an athletic development of the muscles accompanied by obesity has been noted in certain cases of corticoadrenal tumors.

*Translated from the French manuscript.—Ed

Incidentally, it may be remarked that men have a stronger musculature than women.

Brown-Séquard and, more recently, Zoth and Pregel attributed to orchitic extract an excitant action upon muscular activity. Similar effects seem to appear also (in a direct manner or through the intermediation of the nervous system or the substance that unites the latter to the myoplasm) after the administration of extracts of other glands, such as, the hypophysis (Leopold Lévi and Rothschild, Urechia) and of the adrenals, while the parathyroids seem to exert rather a depressing action upon the musculature.

Here, then, are some facts already known concerning the biology of the muscular tissue and which may guide our first steps in the therapeutics of myopathies.

Endocrine Therapy in Muscle Affections

Thymic opotherapy was employed already by Marinesco in this muscular disease, though, seemingly without clear-cut effect. Basing upon the strong development of the musculature observed in certain adrenal tumors, I have long thought of the employment of corticoadrenal lipoids in the treatment of myopathies. Pende also finds it justified.

It is quite evident that it would not be well to express an opinion concerning my results until after a sufficiently prolonged experience. However, in two patients whom I subjected to this treatment, there seems to have been produced a progress in the muscular trophicity associated with an amelioration in ahe general nutrition. Several myopathic patients presented, moreover, the asthenic constitution in the production of which the corticoadrenal hypofunction seems to take a part.

One may reason by analogy in favor of testicular medication and remark that certain myopathic patients present signs of orchitic insufficiency (for instance, slight development of the hair on the face). In one of these cases, I have found, with Miss Parhon, that the Abderhalden reaction was positive for the testes (as it was, too, for muscular tissue) and my colleague Sacaloglu, in whose service this patient was being treated, subjected him to treatment by orchitic lipoids and apparently observed a certain degree of improvement.

This adrenal and orchitic treatment (and others, also, which are still to be considered) may be combined in the same patient, even though it is necessary to study patiently the individual action of each.

But, one must think of still other treatments. Thus, Allard and also Tordeus seem to have secured certain results by means of muscular opotherapy, or organotherapy.

Specific Lipoids

Iscovesco claims, on the other hand, that the lipoids of the different organs possess a homostimulant trophic action. It would, therefore, be necessary to investigate also the therapeutic effect of the muscular lipoids in the treatment of myopathies.

Again, Carnot found that organs in course of development are in a state of regeneration after the extirpation of more or less extensive portions and manufacture substances capable of stimulating specifically the division and, therefore, the multiplication of cells in these respective organs. These same substances ("cytopoietines" of Carnot) can be discovered in the serum of these animals.

The Author's Experiences

Led by these researches, I have attempted, with Savini, the treatment of two myopathic patients (brother and sister) by means of the glycerinated extract of fetal muscle. This treatment, which one might call myocytopoietic organotherapy, seems to augment the muscular strength of our patients and to inhibit the progression of the atrophy.

At the present time, I have under treatment two other patients (brothers) afflicted with the same disease.

What I have just said about the muscles, it seems to me, must be said, with some modification, for certain nervous diseases, such as the muscular atrophy of Aran-Duchenne, lateral amyotrophic sclerosis, the atrophy of the type Charcot-Marie and, perhaps, dementia precox, familial amaurotic idiocy, etc.

In these maladies, also, one must think of nervous opotherapy, since the lipoids of the nerve substance seem to localize in the nervous system after their experimental administration. One must think also of the neurocytopoietic opotherapy which seems to be destined to stimulate, if not the division and multiplication of nerve cells, at least their repair.

For the nervous affections accompanied by amyotrophy, the neurocytopoietic therapy will have to be added to myocytopoietic remedies, and this I have done recently in a patient affected with lateral amyotrophic sclerosis, who claims to be feeling better.

For the nervous system, one must likewise think of the adrenals which seem to affect the nutrition of this system. The adrenal cortex atrophies in anencephaly and this latter process is primary while the corticoadrenal atrophy is a secondary process.

It seems that the embryonal brain regulates

chemically the corticoadrenal development and that the cortical cells (of the adrenals) furnish, in their turn, a substance to the brain which is very probably lipoid in character and is necessary for its development. This embryonal brain would obtain these substances from the adrenals through the intermediation of certain hormones—"chemical messengers," according to Starling's expression.

Other opotherapeutic substances (thyroid, testes, ovary, hypophysis, may, likewise, possess utility, according to the nature of the cases.

For all these maladies, one would also think of normal serum which may contain the substances that are lacking in the patients of whom we are speaking.

One must think further of cytotoxic serums (neurotoxic); in fact, Cantacuzène has shown that hemotoxic serums employed in small doses exert a stimulating action upon the formation of blood cells rather than bringing about their destruction.

If it is permitted to reason by analogy, one must expect a similar action (upon the nervous system) from the administration of neurotoxic serum.

One would have to study (as is now being done) also the curative action of certain ferments extracted from tissues.

It is very evident that one may not hasten to cry victory and that one must not depend too much upon the affirmations of the patients when they declare themselves improved. Moreover, one must also guard against one's own individual suggestion.

These different treatments of which we have just spoken might be attempted in a great number of cases and also studied experimentally in order to formulate an exact opinion as to their action.

It is no less true that, in cases of endogenous maladies, one must administer an appropriate treatment and that this must be suggested by methods borrowed from biologic therapeutics.

The Role of Eye Strain in Headaches

By EMIL DEUTSCH, Chicago, Illinois

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IN this day and age, when specialization in medicine seems to have reached the vogue, it would appear a fitting tribute to such a common complaint as headache to be labeled as a disease *per se*. Unfortunately, this is not possible, in view of the various underlying conditions which, although often neglected by the general practitioner, call for the correction of some symptom or series of symptoms that should be looked for in various parts of the human anatomy.

Here we must concern ourselves, however, only with the relation of the eye to headache; although, in line with the subject matter, we shall touch upon various other symptoms produced by the well-known condition referred to by the patient as eye strain. That this condition has long been recognized by the oculist as an important etiologic factor causing a multitude of distressing symptoms, is, of course, too obvious for mention. It is my purpose, however, to acquaint the general practitioner with the interrelation and incidentally outline an easy manner in which to recognize and correct this condition. To accomplish this, it will be necessary to digress at times from the fast line indicated by the title, and a few subdivisions of eye conditions due to constitutional disturbances will be reviewed incidentally.

What Eye Strain Is and Does

Eye strain is a state of fatigue of the eye muscles producing, as a result, local and, very often, constitutional symptoms. However, general loss of muscular strength throughout the body as a result of disease will also cause the same loss of strength in the eye.

Eye strain of a comparatively high degree may at times give rise to practically no symptoms, while in some cases even a mild degree of refractive error will be the cause of very pronounced discomfort. It is not infrequent to find that a slight fraction of a degree corrected will produce marked relief, even if normal (20/20) vision is present but associated with eye strain due to an effort to overcome the muscular defect. Such patients, as a rule, are not conscious of the fact that they are straining. It becomes automatic with them in time. It is in such cases that one cannot encourage too highly the use of cycloplegics (atropine or its derivatives) to relax or paralyze the ocular muscles under tension. We often find that this slight medication itself, through which the eye is placed in a state of rest (so that it is not always necessary to

prescribe glasses) will frequently accomplish relief, even if not permanently.

There are certain types of cases with poor vision requiring a high degree of correction where only slight symptoms are present. Such patients are unaware of the abnormal condition of their vision and, never having reached a degree of perfection in vision, they necessarily do not realize their visual shortcomings. It remains for the oculist to discover such defect and acquaint the patient with the recognized standard of vision which theirs does not attain. The lack of symptoms is due to the fact that, no matter how much tension nature may exert upon the muscular mechanism of the eye, it cannot attain clear vision. Consequently, the muscular and nervous effort being limited, the symptoms of eye strain will be diminished in proportion.

Perhaps of the greatest importance from the standpoint of the patient is the type of poor vision due to pathological conditions of the eyeball. These cases rarely manifest symptoms of eye strain; as, here again, extra effort does not increase vision and the structures of the eye may not be functioning to full capacity. In such a case, the muscles, nerves, lens or cornea may be diseased. However, it is important to examine such individuals to see whether glasses will aid them in the improvement of vision, since such eyes already suffer poor vision due to the disease they present, and any improvement will be cause for gratitude on the part of the patient. It may be interesting to state here that blind people almost never suffer from headaches or migraine.

A fourth class of eye strain causes reflex constitutional disturbances in other parts of the body, such as (a) nervous manifestations —neuralgic pains, especially in the head, headaches, vertigo, melancholia, nervousness, insomnia, muscular twitching, diplopia; (b) gastrointestinal symptoms—nausea, vomiting and other symptoms of distress.

A fifth class includes the diseases of the eye itself influenced by eye strain—styes, conjunctivitis, blepharitis, Meibomian cysts, cross-eyes, lachrymation, muscular imbalance and spasms, retinitis, and so forth.

Symptoms of Eye Strain

Common symptoms of the eye itself that may lead us to suspect eye strain are pain in or around the eye or orbit, smarting, itching, watering of the eyes, photophobia, sandy sensation, squinting or frowning, spasm of the lids or face, blurred vision, fatigue when reading, red eyes, headaches, and so forth.

Headaches are often an expression of fatigue of eye muscles (extrinsic or intrinsic). Some individuals suffer fatigue more easily than others and some are more prone to nervous manifestations than others, and may develop headaches, especially when the eyes are called upon for undue work, such as reading, shopping, sewing, the theater, looking at moving objects or people, and so forth. Such types of headaches are usually relieved by rest or sleep. Then there are types of headaches in the frontal region which occur upon arising and last two or three hours. These are usually characteristic of sinus disease. Sinus disease does not necessarily manifest itself by pus in the nose; it may be only a closure of the frontal duct.

Types of Headache Due to Eye Strain

As to types of headache, it is found that ocular headaches are almost invariably orbital, frontal, temporal or occipitotemporal. It is within the province of the general practitioner, therefore, to be of great help to the patient immediately upon his first opportunity to observe such headaches, to differentiate them categorically from the other classes of headaches not amenable to visual correction. It might not be out of place to emphasize the fact that a mere assurance on the part of the patient that glasses have already been procured for the purpose of correcting the condition should be accepted with only the greatest reserve. It is incumbent upon the examining physician to feel personally convinced that the lenses have been obtained after a thorough scientific examination.

An important point worth mentioning is that it is hardly possible to measure the exact amount of error in most children or young people without the aid of cycloplegics. In older persons, these are not imperative, but also frequently necessary. Another factor that is often overlooked in examining a patient for eye strain is the investigation as to external muscle imbalance.

Effect of Diseases on Eye

To emphasize the necessity of cooperation between the general practitioner and the oculist, it would suffice to point out a few important and practical facts in general disease which may affect the eye or manifest themselves through the eye.

1.—*Diabetes.* About fifteen percent present ocular symptoms. A premature presbyopia or cataract or marked change (fluctuating) in vision may be the first symptom to lead us

to the diagnosis of diabetes. A history of frequent change of lenses due to swelling of the lens may be a forerunner of diabetic cataract. A history of iritis. Yellowish round spots in the region of the optic nerve found by an ophthalmoscopic examination.

2.—*Bright's disease* produces impaired vision, often edema of lower eyelids. Cataracts are not uncommon. Fundus examination shows white or yellowish spots in retina which often coalesce and form stellate figures found near the macula.

The chronic interstitial type is most commonly responsible for albuminuric retinitis; next in frequency is chronic parenchymatous nephritis. This condition should be recognized when changes in the fundus are still minute. In well-developed cases, it is too late by the time edema of the disk and stellate spots are looked for.

3.—*In tabes dorsalis,* the pupil, ocular muscles, the optic nerve and vision are always affected. The eye symptoms make their appearance early in some cases. Argyll-Robertson pupil may be noted long before loss of knee-jerk reflex or incoordination appears. Irregularity or deformity of the pupil is also often found. The pupil is almost always contracted, even to pin-point size. The optic nerve often shows a progressive atrophy of both optic nerves which leads to blindness. Paralysis of ocular muscles, with cross eyes, ptosis and diplopia is commonly observed.

4.—*Acute infectious diseases.* To summarize the exanthematous diseases of childhood, they practically all present some ocular manifestations in one form or another. The least that can be said is that the proper care in every cases of this type will prevent so many complications in later life of the child.

Many cases of cross-eye, chronic conjunctivitis, blepharitis, ptosis, corneal scars, poor vision and so forth could be avoided by a more rigid care of the eyes during disease and convalescence, especially after measles and diphtheria.

5.—*Wood alcohol* is known to have caused permanent blindness. It is a protoplasmic poison that possesses selective affinity for the delicate nerve tissue of the eye. The symptoms are sudden blindness, vomiting and abdominal pain, double vision or (sometimes) ptosis. The fundus may or may not show pathologic changes. The field of vision shows paracentral scotoma. The best accepted treatment so far is alkalinization, lavage, emetics, diaphoresis. Some report good results with thyroid or pituitary extract.

6.—*Arteriosclerosis* shows changes in the fundus through the ophthalmoscope. This is an important diagnostic point, as it usually indicates similar conditions in other parts of the body, especially in the brain. This evidence through the eye may be the first to reveal the existence of this vascular lesion. It often is a forerunner of cerebral hemorrhage. It is characterized by an irregularity in the caliber of the blood vessels, constricted retinal arteries and tortuosity. The optic nerve head is usually red, the veins are crossed by the arteries, with dilatation just beyond the point of crossing. (Knockling.) We may find hemorrhagic spots in the retina. White lines around the vessel wall are also characteristic.

7.—*Exophthalmic goiter.* The combination of protruding eyes, staring expression, usually bilateral (Dalrymple's sign) widening of palpebral fissures, decreased frequency of winking (Stellwag's sign), retarded movement of upper lid when it should accompany the eye in its downward movement (Von Graefe's sign), a peculiar tremor of the lids when gently closed are some of the most important findings.

"THE medical profession could well afford to pay Coué to stay in this country." (Speaking of various 'ists and 'paths and 'pracs); "First, one of 'em seizes nothing out of the air and holds it in his hand and says to the sick man, 'See, there it is!' And, then, another grabs the sick man's knee and tells him THERE is what ails him. The sick man can see his knee; so, for a while, he's pretty contented. But, then a third comes along and he says, 'No, it's here—HERE IN YOUR SPINE!'—thereby stabbing No. 2 in the back by going for what the sick man can't see. But Coué says, 'You don't have to pay others to fool you. Fool yourself.'"—CHARLES H. MAYO, M. D.

The Principles of the Care of Surgical Patients

By GUSTAVUS M. BLECH, Chicago, Illinois

1. General Remarks

EVERY surgical operation, minor as well as major, involves certain risks. This fact is so striking that in most civilized lands the law protects individuals against operations without their consent or, under certain circumstances, that of those in authority over them.

In addition to the risks involved, the experience even of competent operators does not preclude the possibility of failure to attain the desired objective—organic and functional cure. Indeed, it is a lamentable fact that, occasionally, the original disease or diseases for which relief through surgery has been sought become aggravated, both subjectively and objectively.

It follows that every conscientious surgeon must approach surgical procedures with a sense of responsibility and do everything and omit nothing that can, in any manner whatever, contribute to the welfare of those who place their lives in his hands.

There is only one exception to this, and that is, the class of extreme emergencies, in which a few seconds' delay means certain death. Humaneness, morality and law dictate that, if it is unavoidable, every rule of modern technic can and should be violated in an attempt to save life. Only when the immediate danger has been overcome, can there be any thought of guarding the patient against the consequences incident to operations under unfavorable conditions.

To illustrate this viewpoint, let us assume that a physician confronts a child nearly asphyxiated from laryngeal diphtheria. His duty is very plain here; namely, to reach for his pocket-knife and open the trachea without a second's delay. After ingress of air has brushed aside, for the time being, the otherwise certain lethal termination, means should be taken to avert the effects of the almost certain infection, produced by the soiled hands, the knife and the patient's skin, in addition to the attempts to cure the primary disease.

Importance of Strategy and Tactics

It is with surgical operations a good deal like with war. No scientifically trained commander will rush his troops into battle without a definite plan (strategy) in the execution of which (tactics) courage, ingenuity and familiarity with certain basic principles are the factors assuring success. But, when the army is attacked suddenly and unexpectedly, there is only one thing left to do, and that is, to fight back as best one can under such a handicap.

The operating physician—the term is used advisedly—who plans an operation must be fully cognizant of the possible and probable dangers involved in the "tactical" execution of his surgical "strategy," and carry out his plan, *lege artis*, that is to say: afford the patients the best possible care and operate with precision.

Dangers of Operations in General

Fortunately for our calling, we know the enemy we are confronting. It is in exceptional cases that we are taken entirely unaware by a treacherous foe sneaking in on us from the dark.

We know that every operation, producing as it does a breech in the integrity of the integument and deeper tissues, aside of the inevitable "shock," directly exposes the human empire to an invasion by bacterial hosts. We know that the same knife which is wielded for the patient's weal also severs the vessels containing a vital fluid, the extensive loss of which gravely imperils life; we know that, in preexisting metabolic disturbances, this same knife may produce a condition of chemical toxicity (acidosis) which is even more threatening, because it proves rebellious to our defensive measures; we have seen one of our allies (weakened by certain preoperative influences) lie down and leave the empire to crumble (uremia) and, finally, there are reserves hidden away, at a time when we believe to have thoroughly surveyed the arena of battle, that come forward for renewed attacks, when we felt victory was secure (complications).

Shock

We are not here concerned with the milder forms of shock, local suppuration, minor and easily controlled hemorrhage and the "complications" due to reactions on the part of the human body, because these are the inevitable incidents of every operation, scarcely exceeding the significance of physiologic processes of the operated human being. It is a different matter, however, when "shock" threatens to inhibit the great nerve centers, when hemorrhage becomes serious enough to jeopardize life, and when the invading bacterial hosts overcome the leucocytic defenders, and not

only deploy virtually unopposed in all directions but devastate the human body until its life is stilled forever in death.

And, finally, what availeth it to wage war, even if immediate defeat is avoided, if a victory brings us thistles instead of ripe and refreshing fruit?

Defensive Resources

Having sketched the dangers, let us take a fleeting glance at the defensive resources at our disposal.

We, alone, would make sorrowful warriors, even if in all combats we were led by the great law of "*non nocere,*" were it not for our great ally—*vis medicatrix naturæ*. This same loyal handmaiden, who is more important to the internist than his entire armamentarium, proves also a faithful nurse to the externist. But, she is not all-powerful, and a wise operating physician will be able to estimate the amount of aid he may expect from her.

The following two typical cases illustrate what we have in mind, and are here given with the understanding that they do not typify inexorable laws; for, in surgery like in many other disciplines, there are no rules without exceptions.

Case 1. A robust blacksmith, aged 32, has just partaken of a hearty meal, a few minutes after the conclusion of which he is stricken with sharp, colicky pains. As he has never been sick before, his wife believes that there was something wrong with the food and she administers all sorts of purgantia. It is only when they fail and the patient appears to her rather seriously ill that surgical aid is sought. When the writer is called in consultation, hours after the appearance of the first symptom, the picture of a perforative appendicitis is so plain that immediate operation is urged and accepted.

Without more delay than was necessary to transport the patient to the nearest hospital, and without further preparation than to anesthetize the patient and disinfect the operative area, laparotomy was done. The patient's pulse became very bad the very moment the peritoneum was opened. The abdomen was virtually filled with pus, the ruptured appendix was found, brought to the surface, but not removed.

Heroic "nursing" was instituted. In spite of the tremendous toxemia, the patient made a slow but uneventful recovery.

Case 2. A farmer, aged 66, who had suffered nearly two years from prostatic hypertrophy requiring frequent catheterization, was brought to the hospital for operation. He showed urinary infection and his general condition was not satisfactory.

Accordingly, immediate operation urged by the village physician was refused, and a few days' preparatory treatment advised, and this with the distinct understanding that only a preliminary cystostomy was to be done, the enucleation of the enlarged prostate to follow about a week afterwards.

The patient improved generally under the preparatory measure, and the cystostomy was done under local infiltration anesthesia, in a few minutes. There was no perceptible change in pulse, temperature, or respiration at the conclusion of the operation. The patient was as indifferent to his surroundings and himself after the operation as he was when seen before the operation. The urine came freely through the drainage tube and appeared fairly clear throughout the day. In the evening, it was noted that the pulse was not as strong or as regular as it had been in the morning. This change was so slight that the special nurse, a young woman of good training and experience, did not notice it until her attention had been invited.

The next morning, the vascular tone and rhythm were less satisfactory, the patient more apathetic, in spite of the usual measures. There was nothing wrong with the wound or drainage and no evidence of infection beyond that produced by the catheterization before he came to the hospital, and this, too, seemed diminished.

During the afternoon, the pulse just fluttered, respirations became shallow and, within an hour, death ensued, though the exact moment could not be fixed. There is no doubt, in this case, that the comparatively minor surgical intervention proved sufficient to shorten life. While this may appear as an exceptional case, the lesson is obvious and one cannot but reflect what the result would have been if the family physician's demand to perform prostatectomy had been carried out!

We have, in the two cases cited, types of the *vis mediacatrix naturæ* at work and at rest. It is not altogether a matter of age, though the degenerative changes incident to advanced age play important roles.

Organic lesions, bacterial infections, metabolic changes, and interference with the normal or biologic functions of the body, as classified and taught by clinical medicine, show the debit side of surgical risks, while the physiologic, dietetic, hygienic and pharmaceutic agents known to scientific medicine constitute the credit side of surgery. As we shall have an opportunity to study them at rather close range, we shall conclude our general remarks with the adoption of a scheme to view our tactical resources at three different periods, viz., the preoperative, the operative and the postoperative care of surgical patients.

2. The Preoperative Care

In view of what has been said in the preceding section, it seems palpably plain that the planning of an operation, once a diagnosis of a surgical disease has been made, is the first and principal matter for careful and detailed consideration.

What do we mean by planning? Certainly not the technic of the operation, for, it is assumed, that everyone who takes the knife in his hand is master of his profession and can be depended upon to perform the work in hand in a manner which will not needlessly add to the operative risks. Bunglers are not surgeons and we are not interested in any others but real surgeons.

The plan of any operation of significance seeks to determine the time period at which it will be safest to operate, if at all.

This can be determined only by a thorough familiarity with the patient as a human being, as an individual and not merely as a case having this or that surgical lesion, and this, in turn, can be acquired only through a routine or rather a systematic examination of the patient.

Much as we are opposed to routinistic work, here we have a situation in which "red tape" reigns supreme, for two reasons: First, because a certain fixed routine prevents forgetfulness; and, second, because, through such routine, individualization is encouraged.

Orderly Examination

In other words, the justly despised manner of filling in printed cards or blanks prepared for physicians by enterprising printers or certain well-meaning but misguided societies, who seem to feel that their particular blank forms are essential to the "standardization" of the practice of medicine, and that "standardization" is the sole road to professional morality and salvation, has a justification for all preoperative investigations, simply as a reminder or "tickler" assuring completeness.

Even the case reports of really scientific investigators betray, on close examination, that the authors have pursued a definite system of investigation.

It is, of course, entirely a matter of individual opinion which particular system of investigation is best. The time has passed when a surgeon is expected or able to make a diagnosis during the first consultation; and it is a matter of indifference whether one prefers to send the patient to the x-ray laboratory first or after certain other investigations have been completed, so long as *all steps necessary to arrive at an exact diagnosis and reliable estimate of the patient's general mental and physical make-up are taken and none forgotten.*

It is, therefore, merely as a suggestion that, in the preparation of records, some such scheme as the one used by the author be adopted. When one has the means, printed cards and filing systems are convenient, but one may do good work without such expensive equipment.

Examination and Record

A sheet of paper containing the following data, pasted to the inside cover of a record book of any desired size, will answer all practical needs:

1.—Patient's name, address, telephone number, occupation, social condition, age and references (personalia).

2.—Family history (tuberculosis, hemophilia).

3.—Previous history.

4.—Present history (patient's narrative of present trouble).

5.—Examination of scalp and head. (alopecia, scars, evidences of osteitis, depressions, fontanelles, size of head).

6.—Eyes (nystagmus, strabismus, pupillary reflexes, exophthalmos).

7.—Nose (catarrh, turbinates, septum deformities).

8.—Mouth and throat (gums, teeth, pharynx, adenoids, tonsils).

9.—Neck (thyroid gland, blood vessels, adenopathy).

10.—Chest (bronchi, lungs, pleuræ, heart).

11.—Abdomen (scars, herniæ, ascites, tenderness, tumors, kidneys, liver, stomach, spleen, pelvis (gynecologic), rectum).

12.—Extremities (function, articulations, veins, phlebitis!).

13.—Nervous system (Romberg, Babinski, ankle clonus, patellary reflexes).

14.—Spine (contour, deformity, spina bifida).

15.—Pulse, temperature, respiration, blood pressure.

16.—Special: Cystoscopy, kidney function, uranalysis, blood, metabolism test, ophthalmoscopy, stomach chemism, x-rays, spinal fluid.

It may not be amiss here to invite attention to an obsolete and needless usage, and that is the recording and reporting of negative findings.

As an example, we give the following case:

N. W., aged 27, clerk, single, parents living and well. One brother, aged 29, living and well. One sister died in infancy, cause unknown. Had the usual diseases of childhood. Previous history shows no other diseases. Present history: For the past two months, patient complains of headaches, nausea, gastric distress about two hours after meals, pains radiating towards the left shoulder blade, loss of weight, nervousness and insomnia.

Examination: Head, no scars in scalp, no tenderness anywhere, fontanelles cannot be mapped out. Eyes, show no strabismus, nystagmus or exophthalmos. Teeth, apparently normal. Throat, normal. Thyroid not enlarged. Heart normal. Lungs normal. Abdomen: No hernial aperture, no tenderness on pressure in ileocecal region, palpation of liver, spleen, gall-bladder, negative. There is no effusion. Slight tenderness on pressure in epigastrium.

Urine, specific gravity 1018, reaction acid, no albumin, no sugar, no casts.

Blood, erythrocytes, 5,000,000; leucocytes, 7,000; hemoglobin, 95 percent, etc., etc.

Such a method of recording is simply a waste of time, labor, energy, and paper, and will tend to reflect on the reporter as one who resorts to padding in order to get out a respectably-sized reprint for self-advertisement.

Even the Germans, who are given to publishing lengthy case reports, embrace a whole group by one word "normal" or by two letters corresponding to our n/s, meaning "nothing special."

Compare with the foregoing the case cited below (Case 3), and note the directness of reporting noteworthy findings.

Preoperative Observation

Reverting to our subject proper, let us assume that a patient consults us for a comparatively minor surgical defect, easily cured by a simple operation which should have no mortality, and that a systematic examination showed nothing abnormal or anything that could in any way affect the surgical risk. It would seem that, in this class of cases, no preparatory measures worth mentioning are necessary and that the operation can be performed the very day of, or the day following, the consultation.

Even in such cases, a little delay may serve a good purpose, as can be seen from the following case in the author's practice:

Case 3.—M. P., aged 27, bookkeeper, complains of dragging pains due to a "rupture" on his right side. Family, past and present histories show nothing interesting. There is a reducible, inguinal hernia (direct) on the right side. Patient has never worn a truss. General physical examination negative. Pulse 82. Temperature, normal. Urine negative.

Diagnosis: Direct, inguinal, reducible hernia, right.

Treatment: Herniotomy advised.

Patient agrees to enter the hospital the same evening, but on telephonic inquiry it is learned that the operating rooms will be engaged the following morning. Arrangements are changed, postponing entry to the hospital twenty-four hours.

The evening preceding the operation, the patient is found resting in his bed, apparently comfortably. Yet, a certain lustre in his eyes, not noticed before, attracts our attention. The chart is sent for and it is noticed that the temperature is 99°F. Pulse 90.

Immediate examination reveals only one abnormality—a gurgling sound on pressure in the ileo-cecal region. We suspect typhoid fever and postpone the operation. Widal reaction proves positive and, shortly after, the appearance of abdominal roseola still further clinches the diagnosis.

The patient recovered in about a month. Three months later, he was operated on without any untoward effect. Further comment seems superfluous.

It has been remarked that the systematic examination develops individualization. This is applicable in every case coming under our observation.

Few surgeons have the means, time or assistants to make exhaustive laboratory investigations, and these need not be resorted to, except when some particular finding calls for further specialistic investigation.

The author, for example, does not pretend to take x-rays, make an ophthalmoscopic examination, a comparative blood count, a Wassermann test and the like, and the services of specialists and laboratory experts are called in when necessary.

The data enumerated in the foregoing list down to 15, should be obtained in the office. When any of the findings call for special tests or examinations, these must be supplied by competent men. Where these are not available in one's town, the hospital should be prepared to complete the work.

The data thus obtained will not only prove of diagnostic value, but show the way towards mapping out our operative plan as regards the preoperative period.

As a general proposition, it is easy enough to establish a long list of surgical contraindications, and the socalled "standing" rules in hospitals for the preparation of surgical patients have been standing so long that it would be a kindly act to all concerned if some one laid them away for a much-needed rest.

One of my friends uses a terse epigram which is worth quoting: "The rules of the hospitals should be made to fit the patients and not the patients to the rules."

Fortunately, every patient is a law unto himself. We say fortunately, because just this circumstance raises the practice of surgery from a craft to an art.

(To be concluded)

Bichloride of Mercury Poisoning

Outlining the Carter Method of Treatment[1]

By THOMAS A. CARTER, Chicago, Illinois

WHEN a banker at Macon, Ga., took bichloride of mercury by mistake, some twelve years ago, offered a million dollars to any physician who could save his life, and died on the 14th day, I predicted an epidemic of poison cases, and, as there was at that time no known antidote for such poisoning, I began some experimental work along that line.

My first paper on bichloride poisoning was read before the Chicago Medical Society on March 4, 1913. At that time, I stated to the medical profession that the treatment was only in the experimental stage or, rather, offered as a hypothesis. As hypotheses are not statements of truths but instruments to be used in the ascertainment of truths, of course, no unverified hypothesis should be accepted for truth. As, at that time, I only reported ten cases, my treatment was not taken seriously. However, as soon as a hypothesis can be accepted, it ceases to be a hypothesis or even a theory and passes into the rank of ascertained facts.

Today, I report my experience in the treatment of 128 cases, with the loss of but 11, and I have also received numerous reports where patients have recovered following the use of my treatment by many other physicians.

In my perusal of these cases, I have come upon many interesting facts, obtained through careful study not only upon my own cases but through attending post-mortem examinations conducted by the coroner's office and going over the records of poison cases occurring in Cook County during the past twelve years.

We cannot deny that bichloride of mercury has a specific action upon the kidneys, but this action and destruction is not nearly so marked as our textbooks and old teachings would have us believe.

When taken by mouth, bichloride may be recovered in many parts of the body—the stomach, intestines, liver and kidneys.

Bichloride of mercury does not kill its victim by its action upon the kidneys alone; it has a very definite action upon the stomach and intestines. When taken per mouth, upon entering the stomach, an albuminate of mercury is formed which is somewhat insoluble and slowly absorbed. Where a large dose has been taken, mercury may be found throughout the intestinal canal and may even be eliminated per rectum.

Throughout the entire intestinal tract, including the mucous membrane of the mouth and esophagus, there will be found areas of marked necrocytosis followed by minute hemorrhagic areas which continue to enlarge, a slight bleeding at first, later becoming a marked hemorrhage. Blood may be first noticed in the stool or the patient may expectorate a slight amount of blood, or there may be bleeding of the gums. These cases generally terminate in death.

Hemorrhage Difficult to Control

In this group of cases, there is very little if any change in the blood picture, coagulation time running from two to three or four minutes. Hemorrhage is not controlled by any of our drugs or serums. I have tried everything. My many interested friends have made many suggestions which have been thankfully received and carried out. But they have failed to save the patients.

Blood transfusions are indicated and, if given on the first signs of hemorrhage, great good is done. These hemorrhagic conditions develop from the eighth to the fourteenth day and generally follow in cases where active treatment has been delayed. I have not had a hemorrhage develop where the patient came to me within the first 48 hours. There is such a marked destruction of the mucous membrane that it is my opinion that small blood vessels are denuded and, once this fatal hemorrhage gets under way, nothing can stop it.

A typical case of this kind came to me on February 26th of last year. Six days before coming to me, the patient had placed a 7 7/10-grain bichloride tablet into her vagina upon suggestions of a department store employe. When I first saw her, she had experienced a marked absorption which manifested itself throughout to a vast degree. It seems impossible to believe that such severe gastro-intestinal symptoms could be present. The woman died on the eighth day, but voided 42 ounces of urine 24 hours prior to her death. Post-mortem examination showed destruction of stomach and intestinal linings, with blood present in both stomach and intestines.

The Author's Method

In outlining the treatment for bichloride of mercury poisoning, I will not go into the experimental stages. The drugs used in this treatment are sodium acetate ($NaCH_3COO$)

[1]Read before the North Side Branch, Chicago Medical Society, January 4, 1923.

and sodium phosphite (Na_2HPO_3); *not* sodium phosphate. When I first wished to use sodium phosphite, I found that it was an unused drug and had been taken from the list of usable drugs years ago, so that it was necessary to have the drug especially obtained for my use. Many other physicians throughout the world have used my treatment with success; a few have failed, the failure generally occurring where other methods of treatment have been tried in conjunction with mine.

I have studied this method of treatment very carefully and have a reason for every step in the treatment. Also I have been liberally supplied with suggestions. Generally, though, where I followed a suggestion, the patient was lost. So, in all fairness, I ask the users of my method to follow it carefully and, should they fail to save their patient, I should appreciate a report of their case.

The outline here given is typical of the orders written on the hospital chart for an average case, say, one who has taken from 5 to 50 grains of the poison, with a few explanatory notes to follow.

Treatment

No. 1. Immediate gastric lavage, using plenty of water. Do not give eggs and milk.

No. 2. Carter's antidote:

(Sodium phosphite, grains 6
Sodium acetate, grains 4

Tablets 2, crushed, in one-half glass of water, every hour, day and night.)

No. 3. Saline laxative ("Abbott") or citrate of magnesia, q. s. so that patient has two to three movements of the bowels each day.

No. 4. Clean mouth and teeth thoroughly and frequently with an alkaline solution, such as liquor alkalinus antisepticus or milk of magnesia.

No. 5. Measure and estimate all urine voided, totalling each 24 hours. (This is my guide: If urine is suppressed or scanty, increase dose of antidote).

No. 6. Hot-water bags to abdomen for pain. Do not give morphine.

No. 7 Diet: None for first few days according to condition of patient. Give water freely, preferably distilled or boiled water, and continue on starvation diet until danger of gastric hemorrhage is past.

No. 8. Do not give hot baths. Have patient rest in bed for at least one week.

Explanatory Notes

Ad No. 1. (a) When albumin is added in cases of bichloride of mercury poisoning, it increases the albuminate of mercury, making it more soluble and taken up into the system more quickly. (b) If the amount of poison taken is known, then, before removing the stomach tube, administer through the tube ten times the amount of antidote dissolved in water. Keep the amount in excess—the antidote is non-toxic.

Ad No. 2. The antidote must be given 24 hours a day in order to keep a fresh solution of it continually passing through the blood stream. Mercury has been recovered, as mercury, post mortem, several days after taking and has been found in the liver, stomach, intestines and kidneys.

Ad No. 3. Saline is given to aid in elimination. Where large amounts of mercury have been taken, it has been recovered in the stool as such.

Ad No. 4. By keeping the mouth and teeth thoroughly clean, we avoid salivation. Patients taking as much as 25 or 35 grains have shown little if any salivation.

Ad No. 5. When your patient gets to voiding 50 to 70 ounces of urine in 24 hours, you may note on discontinuing the antidote that the urine drops down to a few ounces a day. The treatment should consequently not be stopped too soon.

"PHYSICIANS are some of them so pleasing and conformable to the humour of the patient, as they press not the true cure of disease; and some others are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper; or, if it may not be found in one man, combine two of either sort; and forget not to call as well the best acquainted with your body, as the best reputed of for his faculty."—BACON.

A Successful New Treatment for Chronic Diseases

By DR. B. SHERWOOD-DUNN, Nice, France.

Officer d'Académie; Ex. Assistant Professor Tufft's University; Corresponding Member, Société Obstétrique et Gynécologique de Paris; Ex. Colonel, Army Medical Corps.

RHEUMATISM, gout, eczema, urticaria, constipation, neurasthenia, asthma, migraine, dyspepsia, catarrh, menorrhagia, dysmenorrhea, troubles of the menopause and other disorders of a chronic character, have forever been the *"bête noire"* of the physician.

What has proven a successful treatment for one, utterly fails in another, of an origin that has never been precisely determined. Their treatment has been purely empirical, but the final results that have grown out of the studies of Metchnikoff, in the production of the serum by Professor Danysz, known under the name of Entero-Antigens, is accomplishing cures that hold forth the promise of a revolution in the treatment of all forms of chronic diseases of non-contagious origin.

Medical science has for its object, to teach us why and how an organism becomes diseased, what constitutes this disease, and how a cure is effected. It is only by knowing how to answer these three questions, that it is possible to treat disease successfully, either by preventing its occurrence or by assisting the organism in making a recovery. Up to the time of Pasteur, we knew, as the cause of disease, poisons, chemically crystallizable products and venins; all are of unknown composition. But with the crystalloids they have this in common that the diseases of which they are the cause are all non-contagious in character.

With the discovery of bacteria, we began to know the origin of contagious diseases and it was shown, at about the same time, that the microbe could act as the cause of disease only by its soluble secretions or by-products which escaped at its death; that is to say, by poisons of an unknown composition, but which are analogous to the venins.

Now, although we know the cause of disease, we do not know the *mechanism* by which the pathologic state is brought about. The symptoms and anatomical lesions we recognize, but we do not know how these symptoms and lesions are produced.

Metchnikoff's Views

Metchnikoff was the first to throw light upon the mechanism of cure, especially in the infectious diseases, by his theory that the leucocytes, the only cells of the organism provided with a membrane, could absorb and digest these microbes and thus destroy the cause of the disease.

However, long before the phagocytic theory was promulgated, vaccination against smallpox, anthrax, erysipelas, carbuncle had been successful. The first practical results in the curative treatment of an infectious disease, viz.: the cure of diphtheria by antitoxic serum, was not related in any way to any conception of the phagocytic theory.

As the study of physical and biological phenomena, of the constitution of matter and its manifestations, becomes more extended and more precise, it tends to prove that the perpetual changes observed in all things consist in an uninterrupted series of decompositions and rebuildings, or syntheses, and, as the transformations of any substance must have a beginning and an end, it follows that any substance in process of change undergoes an evolution of which the different successive phases are determined by the physical and chemical properties of its constituent elements.

Decompositions follow, as a rule, a very uniform path and result in simple elements which may be considered as definite. Rebuilding, or synthesis, on the other hand, is itself subject to evolution: it leads step by step to compounds that are more or less complicated, varied and numerous, and it is impossible to predict any end to these changes.

The most complicated and most perfect product known to us is the chemical body which we may call the albuminoid particle. Its characteristic is, that it rebuilds itself as it wears out, or, in other words, that it is continually undergoing partial decomposition and at the same time reconstruction of the decomposed element by the aid of simpler elements found in its neighborhood; so that, although always in an unstable equilibrium, it constantly retains its original composition and structure.

It is easy to understand that under these conditions the particle may increase or decrease in volume, depending upon the amount of reconstructive material found in its environment. When a sufficient amount of building material is at hand, an increase in volume will ensue

and, when its volume has reached certain limits capable of modifying its conditions of normal nutrition, the particle will split into two equal parts. It is this multiplication, together with nutrition, that constitutes life.

The particle will age because, as its elements become more stable, substitution becomes slower and slower: it will die when stabilization has passed beyond certain limits, because a certain rapidity of interchange, producing a certain amount of heat, in a given time, is an indispensable condition of life. The individual may die under these conditions.

When particles find, in their surrounding medium, elements of which they are composed, they can find nourishment and can develop in a normal manner; but when, on the contrary, they find strange elements requiring fixation by their affinities, the nutritive equilibrium will be modified; and when the proportion of particles so affected among the particles composing the plasma of the cell has passed beyond certain limits, the cell itself will become diseased and may die.

Cause of Chronic Maladies

These were the ideas that led Metchnikoff to imagine a common cause for all the chronic morbid states with their periods of acute crises alternating with longer or shorter remissions as originating from antigens and determined by the state of immunity—anaphylaxis of the organism. He demonstrated to the satisfaction of the Paris Academy of Science, that most, if not all, non-contagious chronic diseases, as well as idiosyncrasies, have, as a *primary* cause, antigens of intestinal origin: As a *determining* cause, the anaphylactic state of certain tissues: as an *exciting* cause, the reflexes of the nerve centers.

The necessary experimental confirmation of this hypothesis has shown in reality that the antianaphylactic treatment is of unquestionable efficacy in all those chronic diseases in which we have been able to apply it up to date, and a long series of observations corroborates this.

These results have been obtained by non-specific antigens. The explanation of the curative action of these antigens compelled the assumption of the direct and predominating intervention of the nerve-centers.

The influence of the central nervous system upon the processes of immunity and anaphylaxis is not at the present time understood, at least from the biochemical point of view.

It is indisputable that the cells of an organism, even the leucocytes, have no individual independent life; in fact, the specific functions of each tissue, organ, gland and cell are strictly dependent, not only on the physico-chemical affinities of the substances which compose them, but also and especially on the action and condition of the central and sympathetic nervous systems and upon its conscious and subconscious reactions.

Influence of Nervous System

Syncopes, respiratory and gastrointestinal disturbances produced by emotions, whether mental or psychic, real or imagined, which simulate so accurately the syndrome of anaphylactic shock in total or in part, the chronic disturbances of general nutrition produced by grief: the increased activity of salivary or gastric secretion by the sight of certain foods: all prove that the nervous system can produce in the cells all manner of reactions without the direct intervention of any foreign product whatsoever.

In diarrhea caused by a violent emotion or in urticaria of hysterical origin, it is certainly not the direct action of the peripheral nerves which can in a few moments liquefy the intestinal contents or produce edema in different areas of the skin. These reactions in the last analysis can be the result only of physico-chemical modifications which are produced in the interior of particular cells.

We do not know the exact mechanism of these reactions, but we may assume that there is a disturbance of that metabolism which regulates intracellular nutrition and causes its capillary dilatation.

What is certain and is important to remember is, that excitations of a purely psychic order, which involve those highest nerve cells that determine conscious states, may result in functional disturbances of certain tissues or organs; that is to say, in purely physico-chemical reactions.

Experiences have shown that certain nervous excitations may produce pathologic manifestations analogous to those that produce anaphylactic shock and that anesthesia of the nerve centers may hinder these manifestations by moderating the resultant reactions and especially by hindering the secondary reaction of the organism.

We know that, when in infectious disease (typhoid fever, pneumonia, tuberculosis) nervous symptoms predominate, the process of immunization does not take place or takes place incompletely and the prognosis is therefore grave. We also know that, in antitoxic immunization, the production of antibodies is all the more rapid and abundant when the nervous sensibility of the treated animal is protected against intoxication.

The researches of Cannon demonstrated the physiological changes that follow any violent emotion, such as fear or rage: they cause a marked liberation of "epinephrin" from the suprarenal cortex and of glycogen from the liver. This sudden liberation of epinephrin, which takes place in a matter of seconds, causes in turn the production of many and varied disturbances in the organism, such as stimulation of the sympathetic nerves, increase in coagulability of the blood and in the relative proportion of red blood corpuscles.

Psychic excitations can thus produce a proved modification in metabolism and, resulting from this, a change not only in the substances contained in the suprarenal capsule but in the quantities of substances secreted.

If the facts actually known hardly permit us to understand the nature and the mechanism of the influences which different varieties of excitations of nerve centers exert upon the reactions between antigens and antibodies, we may assume that these reactions are probably never purely local, that they are always influenced by nervous states, conscious or subconscious, direct or reflex.

Chronic Intoxications Arising in Colon

Metchnikoff believed that the recurrent manifestations of chronic disorders had a common origin and with this idea he prosecuted his elaborate and extensive work upon the intestinal flora, until he was convinced that the large intestine was the chief source of all kinds of chronic intoxications. He believed and demonstrated that these intoxications were due to the development and secretions of certain bacilli and that, by modifying the reaction of the medium in which they lived, it would be possible to prevent their multiplication. He endeavored to obtain this result by creating an acid reaction in the intestine by the aid of bacteria of curdled milk.

Metchnikoff proved his theories of the origin of gastrointestinal disturbances in the normal intestinal flora, but we must not lose sight of the fact that the intestinal contents are not solely composed of bacteria, that they always contain more or less digested albuminous matter and that a congested intestinal mucous membrane may permit this matter to pass into the circulation.

We know that any heterologous albuminoid substance, if it has penetrated in the blood incompletely digested (that is, in the form of albumose, peptone or polypeptid), will behave as an antigen, and we know that any ordinary occurrence, even a slight emotion, *can make the intestinal mucous membrane permeable to these antigens, as well as to bacterial antigens.* An anaphylactic state and the disturbances resulting from it can be caused just as well by incompletely digested alimentary substances as by the intestinal bacteria or their secretions.

It often happens that, of several thousand individuals living in the same surroundings and under the same conditions, only a few become ill with typhoid fever or cholera, for instance, and one asks, why does the remainder escape infection? Why are horses, rabbits, guinea-pigs not infected by the ingestion of the bacilli of these diseases, which are pathogenic for these animals when injected into the peritoneum or into the blood?

In the case of man, we may assume a previous spontaneous immunization in certain cases, but in the animals this is very improbable. The only plausible answer is, that the large majority of individuals who escape infection, and all animals who are never spontaneously infected, are refractory to these diseases. And why? Because they either digest and completely destroy the bacilli, or they attack them not at all, because these bacilli or their secretions do not penetrate into the blood as incompletely digested albumens or colloids.

Pathogenic bacteria differ from those which are not pathogenic principally because the first can live and multiply in the blood and living tissue, while the other are destroyed by leucocytes or by proteolysis before having had the time to multiply. Yet, both will cause anaphylactic states by their albuminoids.

Methods of Immunization

The work of Pasteur, his pupils and successors, on pure cultures and on the specificity of germs in infectious diseases has led to the practice of specific preventive vaccination with bacterial cultures of attenuated virulence or with sterilized bacterial bodies.

The work of Roux and Yersin, and of Behring and Kitasato, on bacterial toxins and antitoxic sera, has resulted in the practice of specific serumtherapy in those maladies caused by toxins (diphtheria, tetanus, pneumonias, dysenteries, etc.).

The work of Hayem, Kraus, Belfanti and Carbone, J. Bordet, Ehrlich and others on the reactions caused in the animal organism by repeated injections of blood serum, bacterial cultures and other heterogenous albuminoid liquids, has resulted in:

1.—The conception and application, in medical practice, of Wright's specific vaccinotherapy in the treatment of acute infectious diseases.

2.—The discovery by Charles Richet of anaphylaxis and the practical application of the

specific anaphylaxis of Besredka and Steinhardt (1907).

The researches of Schmidt, Mulheim on peptones, Roger and Josué, Delezenne and Beso, Gley and Le Bas, Ancel and Bouin (1897-1917) on organ extracts, have led to non-specific tachyphylaxis: the researches of Widal and his collaborators Abrami, Brissaud, Lermoyez and others on paroxysmal hemoglobinuria; of Wolf, James W. Jobling, Pagnez, and Vallery, Radot, Pasteur and others (1910-1917) on the curative properties of peptones, autogenous sera, of heterogenous bacterial antigens in the treatment of acute or infectious diseases, have resulted in non-specific sero- or proteosotherapy.

The researches of Danysz (1912-1921) on the properties and the action on the organism of the colloids obtained by synthesis and particularly of arsenobenzenes, of which I have written before, (and my favorable deductions then made have since been fully verified)[1] proved that the phenomena of immunity anaphylaxis and of tachyphylaxis and the methods of preventive vaccination, of vaccinotherapy, of antianaphylaxis, of serobacteriotherapy and of proteosotherapy, specific or non-specific, derived from such phenomena are caused by reactions which, in principle, are of the same kind.

Non-Specific Bacteriotherapy

Researches in the etiology and nature of chronic diseases inspired by all of the preceding work, which would require a volume to describe in all their detail—have resulted in the application in practice of non-specific but selective bacteriotherapy. Its application is based upon the following considerations:

1.—Any congestion of the gastrointestinal mucous membrane may give rise to the passage into the blood of incompletely digested albumens (bacterial or alimentary) which act as antigens.

2.—Every antigen, heterogenous to the organism, will cause in this organism a state of anaphylaxis: it will be, therefore, more or less harmful.

3.—Every specific curative or preventive antigen (vaccinotherapy antianaphylaxis) will prevent or cure disease and will at the same time reinforce the specific condition of immunity anaphylaxis.

4.—If a certain number of different antigens can produce, in a given disease, the same preventive or curative result: if, for example, typhoid fever can be treated with equal success by specific bacteriotherapy or by peptone (Nolf), an attack of asthma or urticaria by the injection of a serum, by an autogenous or heterogenous bacterial preparation or by peptone: if syphilis or trypanosomiasis by atoxyl, arsenobenzene or luargol: these results will be obtained by very different doses. Where several Grams of serum or of peptone will be needed, a few hundredths of a milligram of bacterial bodies will effect the same result: several Grams of atoxyl or of arsenophenylglycin are required to produce the same effect as a decigrams of luargol.

Danysz's Findings

In order to cause a maximum of curative result, the experiences of Danysz have shown that the combination of a group of antigens will act favorably upon these groups of chronic diseases which present a group of characteristics in common.

Most if not all non-contagious chronic diseases as well as idiosyncrasies, have as a *primary* cause *antigens of intestinal origin;* as a *determining* cause, "the anaphylactic state of certain tissues"; as *exciting* cause, the reflexes of the nerve centers.

All and any medicines or methods of local or general application, which have shown themselves to be in any degree efficacious in the treatment of these diseases, act primarily through the nerve centers. The degree of their efficacy depends on their greater or less selective action upon a given nerve center or part of a nerve center.

From the *"ensemble"* of these theories and from the actual facts determined experimentally, we may draw certain conclusions, as enumerated; namely:

1.—Chronic disturbances of nutrition, which manifest themselves by different symptoms according to the organs or tissues affected, have for their common cause a state of anaphylaxis.

2.—This state of anaphylaxis arises from the introduction into the circulation of bacterial or alimentary albuminoid substances (Metchnikoff).

3.—The resulting maladies may be successfully treated by antigens taken from the normal intestinal flora. This treatment is neither antiinfectious nor antibacterial, but purely antianaphylactic.

Danysz's Multivalent Antigen

After examining the intestinal flora of a great number of individuals, the great uniformity of the microbian products upon gelose induced Prof. Danysz to produce a preparation of multivalents with which to make his clinical experiments.

[1] Luargol.—B. Sherwood-Dunn. Clinical Medicine, Chicago, Sept., 1917.

For this purpose, he chose that group which, after preliminary trials, seemed calculated to give the best results in a general application to chronic diseases.

A culture in bouillon is made of the intestinal contents: from this bouillon, on gelose, are isolated all of the cultures produced and, in proportion as they have been reproduced upon the gelose, a mixture is formed of all the varieties with the aid of a physiologic solution or water sterilized by heat. The quantity of these microbes injected or ingested is governed by weight; viz., 1-1,000 to 1-200 milligrams of microbes for the injections and 1 to 5 to 10 milligrams for ingestion.

In order to appreciate the effect that could be produced by one certain species of microbe and more particularly in gastrointestinal troubles, he treated a certain number of cases by pure cultures of the Entero- or Staphylococci of various races of B. Coli, from the group subtilis, protcus and perfringens. The results obtained were less clear and less constant, and the subtilis seemed the least active of any.

Since commencing his experiments in 1913, several thousands of patients have been treated for the following maladies:

Gastrointestinal, comprising dyspepsias, constipation, enteritis (mucomembranous), chronic appendicitis, sigmoiditis, diarrhea, biliousness.

Dermatoses: Urticaria, eczema, psoriasis, scleroderma, acne.

Lungs: Asthma, emphysema.

Arthritis: Rheumatism, gout, dysmenorrhea, leucorrhea, menorrhagia, mild chronic albuminuria, troubles of the menopause.

Nervous System: Neurasthenia, melancholia, insomnia, migraine, general fatigue.

Tuberculosis of the skin, of the mucosa, of the testicle, kidney, ganglions; and incipient cases of the lung.

In the treatment of these last, tuberculin was added to the Entero-Antigens.

[*To be concluded*]

History of Dancing Mania*

A Contribution to the Study of Psychic Mass Infection

By ALFRED MARTIN, Bad-Nauheim, Germany

IN the *Zeitschrift des Vereins für Volkskunde* in Berlin (1914, Heft 2 and 3), I published a larger article concerning the history of the dancing mania in Germany. On that occasion, I supplied a large quantity of material reproducing verbatim contemporaneous reports from the originals and occasionally from later prints; also original documents from the City Archive of Strassburg. Where these accounts were in Latin, I translated them into German.

In this manner, I have *objectively* collected the material in such a manner that later research workers of this subject do not need to go back to the original sources. Although I have not worked up this material fully, I, nevertheless, recorded my own views about the dancing mania.

As all *subjective* writing of history suffers transmutation in course of time, so it may be observed in this instance. Further studies have convinced me that I can not maintain my views, as expressed at that time, in full. I am constrained to revise them.

In this place, I purpose to write the history of the dancing mania from my present viewpoint and more in its general consideration, in view of the fact that the space at my disposal is too small to enter into every detail.

The subject is not only of interest for the history of medicine, but it is of importance for general history. It will show how the psyche of the people is dependent upon the cultural conditions of the time and how it expresses itself differently in accordance with it.

I may mention, as an instance, that the dancing mania may occur purely through suggestion.

The disease has been brought into connection with St. Vitus. Speaking of the patronates of the saints, Luther says that St. Vitus also shares in them, namely, in the miserable dancing and hopping. The expression "St. Vitus' dance" I find recorded for the first time in 1485, in the ordinances of the city of Rottweil. There it says, whoever curses another one with St. Vitus' dance (that is to say, wishes him the sickness with a curse) shall be fined six shillings. "May God give you St. Vitus," or "May St. Vitus affect you" were very customary formulas of malediction. The latter formula is found frequently in Alsatian writers of the fifteenth and sixteenth centuries.

In order to acquire St. Vitus' dance in this manner, two things are required; first, one

*Translated from the German manuscript.—Ed.

must have the *belief* that it is possible to acquire St. Vitus' dance through bewitching; second, one must know what St. Vitus' dance is. If today a man of the sixteenth century were to come to life and wish somebody else St. Vitus' dance, he would not be successful: for, people of today have never seen it and, in general, no longer believe that a disease can be wished on. "God give you St. Vitus" would not be understood by everybody. If somebody were to express the wish that another should have to dance for a year, he would be laughed at.

Formerly, that was different. It was believed that the curse could be fulfilled. The evil wish acted as suggestion, and one danced.

The Oldest Record

The oldest example is a tradition about dancing which, however, has a definitely established historical background. In the course of time, much was added in order to establish the miracle. If this additional material is removed, it still remains that, in 1021, in Kölbigk on the Wipper, near Bernburg, in Anhalt, on a Christmas night, in a grave yard, near the church (surely in conformity with a custom remaining from pagan times; the Yule-tide was the principal feast in the Germanic mythology), the peasants, both men and women, danced, singing, and thus disturbed the divine service. To admonitions of the priest to cease, they did not pay heed. Then the priest cursed them that they should sing and dance for a whole year, and they sang and danced on without pause, without eating. They had danced themselves into the ground up to their knees when they were released through the prayers of two bishops. They fell into a sleep lasting three days. Four of them died, the others retained a trembling as long as they lived and, later, traveled through the land, sick beggars, arousing pity as participants in the Kölbigk dance miracle.

A Strassburg historian, Daniel Specklin (Born 1536), refers the Strassburg epidemic of the year 1518 to the fact that the people had had St. Vitus' dance wished on them.

Original St. Vitus Dance Differs From Today's

From these stories, it may be seen that, formerly, something else was understood by St. Vitus' dance than the children's diseases of today. Chorea minor, or chorea of Sydenham, was described first by the English physician Thomas Sydenham (1624 to 1689). I possess an excellent description of chorea minor written by Prince Christian II, of Anhalt Bernburg, who observed it, in 1623, in his brother Fritz. Therefore, he described it before Sydenham. The physicians of the time did not recognize it as an independent disease. Some considered it as a nervous obstruction; others as a paralysis; still others as an asthma. The name St. Vitus' dance is not employed. Gregory Horstius (Born 1578; from 1608 to 1622 professor in Giessen, in Hesse; later, city physician in Ulm where he died in 1636) speaking of St. Vitus' dance in the old meaning of the word, mentions a girl who, according to the description, surely suffered from chorea minor. He believes that it is something *similar* to St. Vitus' dance and fears that it is something more serious. From him, we hear (*Gregorii Horstii Observationum Medicinalium Singularium Libri Quatuor,* Ulm, 1625) that some authors would not admit any convulsive symptoms in St. Vitus' dance (in the old meaning), but that they rather assumed a mental affliction with a perverse urge and wish to dance. In this they oppose the Arabic physicians (and Horstius himself). These few authors were right; for, the old St. Vitus' dance, which is also called chorea magna, is a psychosis, more particularly a *psychosis with a hysterical foundation.*

Prophylactic Dancing

In order to be free from St. Vitus' dance for a whole year, or more generally from the dancing sickness, that is to say, not to be affected for a whole year and to be protected from having it wished on, one danced, once a year, on certain days and in certain places.

Something similar is observed in baths. In the healing baths people bathe during Walpurgis night and on Walpurgis day (May 1st), more often during St. John's night and on St. John's day (June 24th), for twenty-four hours, believing that they would be free from sickness. Those who could not bathe in the healing baths (mostly natural baths, socalled thermal baths) did so at home in the bathtub. An herb infusion was added to the water in the assumption that the earth rejuvenates herself in spring and that the spring-herbs possessed a particular power; even as it was assumed also that the healing baths received new strength in spring.

Dancing on certain days in sacred places for preventing dancing sickness was observed mostly in crowds in the form of a procession. To this day, there is such a procession in Luxenburg, the Echternach hopping procession, with up to seventeen thousand pilgrims, even though the church today looks upon it as something entirely different, namely, as a severe penance. The purpose of today

(as concerns diseases) is to prevent epileptic attacks or to heal "other epileptic" diseases, since there is no longer a dancing illness in the old meaning of the word. The epileptics hop around with the others. Epileptic children are carried in arms. The well hop for the sick, even for pay.

Here again there is a parallel in bathing customs. In Schwendi-Kaltbad, sick people (especially malaria patients) were once submerged three times in succession or were placed, for a short time, into the cold bath. In 1799, it is reported that healthy persons were paid to enter the cold bath for the sick when the latter would not or could not undertake the journey to the wild and distant place.

The procession in Echternach is observed on the third day of Whitsuntide and is made to the grave of St. Willibrord. The distance is 1225 paces. Today, one jumps two steps forward and one backward. The procession lasts between two and three hours. It is under guidance of the clergy, passing through the church where they hop around the tomb of the saint. The procession contains singers and several bands. The people tie themselves together with cloths and the hopping is done according to the music which plays the proper hopping melody. Evidently, the whole thing is a very old dance.

That, originally, the procession was intended to be a defensive dance against dancing sickness, is proved through the following remark (which is claimed to be the oldest report of the procession) of the historian Brower (Died 1617). His contemporaries had, as boys, heard the oldest people tell that, after omission of the procession, the cattle in the barns had commenced to dance and had continued to dance until the procession was resumed.

The Whitsuntide dance in Echternach is very old. The Latin word *tripudium* has been translated wrongly. It means dance, and I have encountered it frequently in my studies of the dancing mania. If we translate correctly, the Abbott Thiofried (Died 1110) reports in his "Life of St. Willibrord" that, in Whitsuntide week, not only from the neighborhood but from the entire French and German province, according to ancient rites handed down from generation to generation, a countless concourse of priests and people takes place with donations and litany, with greatest reverence, dancing in honor of the saint.

A similar procession is shown in the illustration (p. 268) which the famous Fleming Pieter Breughel drew in 1564, and which belongs to the Albertina collection in Vienna. Under the drawing, Breughel wrote in Flemish: "These are the female pilgrims who must dance on St. John's day from Brussels to Muelenbeec, and when they have danced and hopped over a bridge, they remain free from St. John's disease for a whole year." Musicians may be seen in the procession. The typically hysterical women have reached their goal, the bridge, and are already greatly exhausted. Each one is held by two men. One man and one woman dance separately forward and have donations in their hands which they will deposit in the church in the background.

Here we find St. John as patron of the dancing mania which is called, after him, St. John's sickness. There are further examples of the prophylactic dance. I may remark that St. John's day is June 24th and St. Vitus' day June 15th.

Preventive Dance Repeated Annually

Horstius, mentioned in the foregoing, says, in 1636, that he had spoken with some women who annually visited the St. Vitus' chapel in Drefelhausen in the territory of Ulm (Swabia) and there danced day and night, mentally disturbed, until they were restored so that they felt little or nothing through an entire year until the succeeding May. Then they are plagued by restlessness, as they relate, so that again they are obliged, around the time of St. Vitus' day, to visit St. Vitus' chapel for the purpose of dancing. One of these women had danced there annually for more than twenty years; another one for more than thirty-two years. The women asserted that, for several weeks before going to this St. Vitus' chapel, they had suffered with tense pains in all limbs, with debility and heaviness in the head, that these symptoms had continued until they reached the accustomed dancing place. On hearing the music which was played for them, they felt obliged to dance, being more and more disturbed in their minds.

Dancing Pilgrimages to St. John's Shrine

Schenk von Grafenberg (1530-1598) city physician in his native city, Freiburg i. Breisgau (Baden), reports that, in the Breisgau, two shrines are visited annually on the day of St. John the Baptist. One is in Biessen and is sacred to St. Vitus; the other one is situated in Wasenweiler and is dedicated to St. John the Baptist. All those persons in the Breisgau and roundabout who are subject to this mania congregate there, hasten to place themselves in the order of the German round-dance (a certain dance which later was called

"Allemande"). A remarkable thing is that, generally, these people go about sad, fearsome, anxious and depressed during the month preceding the feast of St. John. In their whole body, they feel dragging, jumping pains. They are convinced that they can not be calmed and freed from this trouble if they cannot pour out this malady by dancing before the shrine of the saint. The result confirms their opinion. The dance lasts three hours and then these people are usually free from their trouble for a whole year.

What has been said indicates that hysterical persons, especially women, believed that, on the feast day of a patron saint of the dance, they were obliged to dance at a place devoted to him; that only in this manner they could be freed from the dancing mania for the succeeding year. Prior to this time, they felt drawing pains in their limbs and were psychically irritated. All these symptoms disappeared after the dance which was indulged in with disturbed psyche and with raving passion. Music was provided for the purpose. The dancers congregated the evening before the feast of the saint. They danced sometimes through the night and the day, while others continued for about three hours.

In this connection, it may be recalled that the whole public, especially the young people, came together on the eve of St. John's day to dance and follow old Germanic customs of jumping through fires.

It goes without saying that those who were afflicted with dancing mania sought help also from the patron saints of the dance in their home towns. Camerarius (Born 1537 in Tübingen, died in 1624 in Nürnberg) writes, in 1610, that, near Ravensburg, in Swabia, on St. Vitusberg, near the St. Vitus Burg (the family castle of the Guelfs) there is a St. Vitus' chapel where not long before, in certain years, the crowd of dancers sought relief by dancing, and recovered. Later, admission was prevented and the chapel was used for other purposes. After that, people ill with St. Vitus' dance no longer came.

Schenk von Grafenberg, of whom mention has been made, informs us of a second curative method which he mentions in addition to the appeal to the saint. At the same time, he presents us with a picture of the dancing mania of his time.

Pregnant women fastened a belt around their large bellies, ran along with the others, jumping and hopping up and down with surprising vehemence but without injury to the fruit. Patients assured him that dancing was produced also by music and that the officials exorcised the dance by engaging drummers and other musicians at public expense and also some very strong men who led the

maniacs about until their fury had exhausted itself. (This is indicated in the drawing by Breughel.) It is observed that the sick often tore their clothes. People clad in red they attacked. Sick persons of means had companions with them, at their own expense, whose duty it was to watch that they or others should not suffer harm. These companions were also the dance leaders in the circle of the demented participants.

As something new, we have here the second method of treatment without the saints. A practical example of this kind, the famous Prof. Felix Platter (Born 1536, Basel) mentions in his observations under the title of "St. Vits Dantz." When he was still a boy, he watched the guard leading a woman afflicted with St. Vitus' dance to a house belonging to the city. The magistrate appointed several strong men to take turns (when one had become tired, the other one spelled him) to dance with her, day and night. This lasted almost a month, with rare interruptions, and was witnessed by many people. The skin of her feet was worn off. When, occasionally, she was forced to sit down for the purpose of taking food or because she was overpowered by sleep, she moved her body, as though dancing, until she was so exhausted that she could not longer stand and was forced to cease her dancing. She was then taken to the hospital where she recovered gradually and regained her strength.

The Well Danced With and For the Sick

It was considered a Christian duty to aid the dance maniacs by joining in the dance. Thus, in 1452, in Zürich, on St. Vitus' day, before the Helmhaus (the Hall before the Wasserkirche, the holiest church of the city), a poor man danced and called to one of the spectators to help him in his need. This man danced with him and aided him thus to be delivered with the help of God and St. Mary. While he danced with the sick, four men jeered at him and the matter developed into a libel before the court.

Before that, in 1418, there had been an action at court. When some poor women danced in the Wasserkirche, there were so many spectators that their dance was hindered. A man came and pushed the curious away in order to make room.

It may be seen how necessary dancing was believed to be for the cure of dancing mania, immaterial whether or no it was done in consecrated places.

This finds its most marked expression during the dancing epidemic in Strassburg, in the year 1518, during which all remedies customary at that time were tried.

The Strassburg Epidemic

Eight days before the feast of Mary Magdalen (July 22), in 1518, a woman in Strassburg commenced to dance. She continued without interruption, day and night, for four days. Thereupon, the magistrate ordered her led to the tomb of St. Vitus which is situated in a hollow stone in Zabern, where she quieted down. While she was on the way, others commenced to dance in the city barns and, in the course of four days, there were about thirty-four men and women. Soon there were fifty passing through the city accompanied by fifers. They danced day and night and it was a miserable spectacle. The poor people begged that mass be read for them. Therefore, the magistrate sent word to the bishop's vicar who replied that he did not deem it necessary; for, the physicians reported that it was a natural disease and, therefore, natural remedies must be tried. However, in order to do all that could be done, he would order the priests to urge the people publicly from the pulpits to pray and call to God that he would exercise mercy and compassion. On the grain market and the horse market, dancing floors were erected. People were hired to dance with the sick to the accompaniment of drums and fifes. Nothing helped. Many danced themselves to death.

The magistrate then confined the dancers in two guild-houses and, on the next day, had them carried to St. Vitus near Zabern, in three wagons, accompanied by the guard. They went willingly and, indeed, begged to be taken. The guard rode ahead and hired priests in Zabern, since there were none in the St. Vitus' chapel. In that chapel, mass was read over the sick in groups. They received crosses and red shoes. On these, above and below, a cross was marked with holy oil and holy water was sprinkled over them in the name of St. Vitus. The patients all recovered.

From then on until St. Michael's day (September 29), dancing and drumming was prohibited in the city and in its territory. Only at weddings and during the first masses were stringed instruments permitted.

The patients were mostly women and children, although impostors also had joined them.

Of interest is the testimony of the relatives deposited before the magistrate. A teacher declared that his son had witnessed the dancing and, when he was expected to help

his father the next morning, in the school, he commenced to dance. The father locked him up until afternoon. After two o'clock, the youngster wanted to go to the dance and he had to lead him there. One man declared that, when he had returned home, he found his wife in the living room hopping up and down. As she was an epileptic, he had assumed that she was having an attack. He laid her down. However, when the poor people passed by with the fifers, she jumped up and ran after them.

The dance continued. It is said that more than five hundred persons were affected. Many danced to St. Vitus' chapel and prostrated themselves, still dancing, before the image of the saint.

On August 14, the guilds are informed that the dancing mania was commenced again and each one should lock up his afflicted relatives or take them to St. Vitus' chapel, but they should not permit the use of stringed instruments or any feast, nor were the sick allowed to wear jewels or beautiful clothes.

The city of Strassburg gave a great thanks offering to St. Vitus, namely, a wax candle, one hundred pounds in weight. When the end of September came about, there were still some sick in the hospital who were to be sent to the Saint with this candle. It was hoped that thus the end of the epidemic would be secured. Unfortunately, the dancing mania would not terminate and it was ordered, under threat of severe punishment, that the sick should be locked up or sent to St. Vitus. Subsequently, the saint was eliminated from the city ordinance, probably since he had not helped anyway, and permission was given that the sick might go to whatever saint they pleased.

A later Strassburg chronicler relates, in 1633, that all this ceased when people commenced to read the word of God; that means, at the time of the Reformation when one no longer believed in patron saints of the dance, and then the dancing mania in Strassburg stopped.

Other Forms of Dancing Sickness

When speaking of the Echternach hopping procession, we have seen that among the Catholics also the dancing mania disappeared and that, today, in that place, they hop against epilepsy and similar diseases. In the illustration, this can be proved. According to Breughel, the dancing procession in Muelenbeec (1564) took place on St. John's day against "Sint Jans sieckte"; that is to say, St. John's disease—in other words, the dancing mania. Almost a hundred years later, in 1642, the drawing was used by Hondius for several wood cuts and these were published in a book. There, however, it is no longer said that the women remained well, for one year, of the dancing mania, but "van de vallende sieckte"; that is to say, epilepsy.

A parallel to this form of dancing mania, which I have described and which has been observed in the territory from southwest Germany to the mouth of the Rhine, may be found in Italy, especially in Apulia, the homeland of St. Vitus. The first reports date from the fifteenth century and even then one spoke of the *tarantismus* as of a well-known malady. Whoever believed to have been bitten by the tarantula (a spider), usually became melancholic and as though stunned, hardly master of his mind. With the first sound of music, the sick jumped up, shouting with joy, and danced without intermission until they broke down exhausted, half dead. There was a belief that they were obliged to dance year after year and thus the cure of the *tarantati* developed into a veritable folk-feast to which one looked forward with joyful impatience. In the seventeenth century, the time of dancing and the music (the summer months) was called the small carnival of women because these were affected most.

Compulsion Ideas

The essential point of difference between these dances in Germany and the joyful, popular dances of the people on St. John's eve is that the former are compulsion-acts which are accomplished with suffering and are believed to relieve the patient from the compulsion-idea. The dance as a compulsion-act frees the patient of the compulsion-idea that he must dance. Fundamentally, it is the same idea that is found in its most terrible form in melancholia. The melancholic patient fears death and this fear of death forces him into death which thus liberates him from the compulsion-idea, however terrible the method may be.

An entirely different form of dancing epidemic is found in 1374 in Cologne, Aachen, Utrecht, Mastricht, Lüttich, Tongern and Metz, that is in the territory of the lower Rhine, around the Rhine and Moselle. Here also physicians assumed that the illness originated from natural causes and they called it mania.

Presumably, the dancers came from southern Germany (Baden), Switzerland, but there no chronicle exists concerning it. On July 16, they arrived in Aachen, danced from there

to Utrecht and, in September, to Lüttich and other towns in Belgium. Everywhere their number increased from the population and new crowds were added, coming from Germany. In Cologne, another crowd collected between August 15 and September 8. More than five hundred were dancing. From September to October, they increased to many thousand. After one year, this number diminished, although many were still seen after three and four years.

Men and women, young and old, danced, half naked, with wreaths on their heads, joining hands. They had cloths fastened firmly around their abdomens. They sang, "Sir St. John, fresh and glad, Sir St. John." They danced for half a day at one place, on streets, in churches, in houses. They were not fully conscious and had no feeling of shame before the spectators. After the dancing, they fell down, cried out with pain in the chest. They asked to have cloths around the abdomen fastened more snugly, or did so themselves, twisting them with a stick. They permitted themselves to be kicked with feet and beaten with fists. Others cried out terribly, threw themselves to the ground and moved themselves along while lying on their backs.

These were mostly people from the lower strata of the population, but rarely wealthy people or clergy. Ultimately, many impostors joined them. A sexual factor existed and, in Cologne, more than one hundred women and servant maids became pregnant.

The Psychology of It

More recent historians suggest as cause that the minds of the people had been depressed through the interdict pronounced by the Pope upon Emperor Ludwig of Bavaria and, therefore, upon the German Empire. This suppressed the offices of the clergy, so that neither absolution, nor sacrament, nor benediction could be imparted to the dying. However, in those times, an interdict was no longer enforced with such severity and, moreover, this one had been raised several decades before.

In this dancing epidemic, I see a revolution against the clergy. Revolts against the governing church and its priests were not new at that time. The Emperor Ludwig, indeed, had taken fugitive heretics from Italy under his protection at court. This had been changed under Carl IV, but the stone had been set arolling.

Then, among the lower classes, the opinion appeared that baptism was badly executed, especially by priests who kept concubines. For that reason, the common people had made up their minds to rise up against the priests, to kill them and to confiscate their goods. In four or five weeks, they hoped, the rich and, at last also, the princes would take part and then the clergy would be overthrown, and thus these poor people, tormented in their souls, danced. Who is not reminded of the dancing of the French in Paris, in 1870, after their defeat and the imprisonment of their emperor, or of the dancing Germans after the débacle of 1918? In place of the normal reaction to soul pain, we see the mad dance.

The clergy comprehended matters at once and declared that the dancers were possessed by the devil. The priests exorcised the devil, that he should leave the dancers. The suggestion was effective. Now the devil spoke out of the people and chatted with the priests. Of such conversations, several are reported. Originally, the movement is by no means "devilish." On the contrary, at first the people declared, while dancing, that they could see the Son of Mary and the open heaven. But, now, when they believed themselves to be freed from the devil, they declared that it had seemed to them as though while dancing they were in a stream of blood and for that reason they had jumped up high.

It was not always easy to exorcise the devil, and the priests tried in every way to catch the sick. One clergyman threw a ladder over the head of one dancer and pronounced at once the gospel over him. Everywhere, processions, litanies and special masses were inaugurated. Thus a psychic influence was exercised upon the masses. In many places, the exorcisms of the clergy healed about three thousand dancers. The few dancing devils who, after the epidemic proper, still afflicted some people, yielded, it is said in one report, very readily to the priestly exorcisms.

The power of the psychosis was broken. The heretics had become humbly devout and the clergy was venerated even more than heretofore by the people. As is related in another report, by Klerus of Lüttich, the clergy, at that time, came into good odor.

The Treatment of Acute Arthritis

By Means of Parenteral Protein Substance

By O. AHLSWEDE, London, England, and Hamburg, Germany

HITHERTO, the treatment of acute arthritis was limited to the various preparations of salicylates. In this idea, the possibility of a *magna therapia sterilisans* played a definite role. The attempt was made to kill the streptococci in the blood stream—unfortunately, without attaining this aim fully. Nevertheless, the possibility of influencing acute arthritis through the salicylates is firmly established.

One of the most important factors in this therapy was the necessity of preventing the frequent sequelæ of endocarditis.

Careful investigations showed that, in the treatment of acute arthritis, it was a question of stimulating the systemis reaction of cellular defense, which is accomplished by means of salicylic treatment. In this respect, salicylates seem to have an effect similar to that of cinchophen in gout. The activity of the cell protoplasm is stimulated, "activated," and, in this manner, an increased production of normal cellular secretory products is brought about. There occurs then a nonspecific reaction of the cells.

This same nonspecific stimulation of cells can be produced also by irritants of various kinds. Oil of turpentine, codliver oil, mercury, arsenic, act in the main nonspecifically by protoplasmic activation.

Even more marked and, moreover, without noticeable toxic effect is the influence of protein substances that are introduced into the body parenterally; namely, milk, casein, and others.

Consequently, the attempt has been made recently to treat acute arthritis by means of injections of protein substances and this with remarkable results.[1] Thus, Edelmann[1] administers intramuscular injections of milk in 10-Cc. doses; Heissen[1] combines this method with the simultaneous administration of salicylates. He claims, in this manner, to prevent the occurrence of endocarditis. In this, he acts in accordance with Arndt's law that, in acute diseases, large doses are suitable, while in chronic affections numerous small doses are proper.

Although Edelmann injected his 10-Cc. doses of milk daily, we believe it to be better to proceed more gently, because, occasionally, this treatment gives rise to pain and to symptoms of irritation. We administer the milk protein in 5-Cc. doses injected into the muscle and order, at the same time, salicylic preparations. Among these, the soluble acetyl salicylic acid is particularly suitable and may be given in doses up to 3 and 4 Grams per day.

For the present, it is hardly possible to do without salicylates, for the reason that, in addition to their undoubted nonspecific effect, they also exert a specific toxic action upon the streptococci and similar germs. The nonspecific effect of salicylates is enhanced if one takes account of its principal action. Salicylic acid acts centrally, like benzoic acid and aniline derivatives. By influencing the heat centers, the heat production is lowered. This action, however, is not limited to the heat center. There seems to exist a general central influence preferably upon the ganglional cells of the vegetative nervous system. Further, it is known that purely motor nerves exert trophic influence upon the muscles supplied by them.

Verworn[2 & 3] recently published his views concerning the physiological susceptibility to stimulation possessed by the cells of various kinds. He differentiates two main types of physiological susceptibility to stimulation, namely, the isobolic and the heterobolic systems.

In the isobolic systems, he includes the nerve fibers of heart muscle and the striated muscular fibers. The heterobolic systems include the ganglional cells, the smooth muscular fibers and the sensory cells. The cells of the isobolic system have a definite susceptibility to irritation. Irritants (for instance, electric currents) which are outside of this limit, do not cause reaction. Irritants which pass beyond the limit produce a maximal function of the cell. The irritation may be strong or weak, the cell will always produce energy or secretory substances to the full limit of its power. Reversely, the cells of the heterobolic type react feebly to feeble stimulation, strongly to strong stimulation. The effects of slight stimulation are cumulative, so that a series of slight irritations will produce a stimulation of the ganglional cell which will not follow upon one single stimulation. According to Rehorn, the stimulation in the isobolic system does not

[1]Heissen, 1921, *Therapeut. Halbmonatsh.*

[2]Heissen, 1915, Niederrhein. Gesellsch. f. Nt. u. Hlkde.

[3]Heissen, 1916, Deutsche medizinische Wochenschrift.

cause a diminution of the susceptibility; in the heterobolic system, however, a lessening of the stimulation is observed which is proportional to the distance.

According to our observations, the cells of the connective tissue, the endothelial cells of the vessels and the cells of the cartilages seem to belong to the heterobolic system. They are stimulated directly by electric, thermic or mechanical means, or indirectly through the trophic nerves. In order to influence them sufficiently, it is well to select numerous small stimulations which act in rapid succession.

These ideas are applied in the treatment of acute arthritis in this manner: At the beginning of the attack, 3 Cc. of milk protein are injected into the muscle. If this treatment is administered in the morning, a second injection of 4 Cc. follows on the afternoon of the same day. At the same time, the patients receive salicylic acid, best in the soluble form of acetyl salicylic acid. If a sufficient reaction occurs (consisting in chills, increased fever, increase in the number of leucocytes in the blood picture), it is well to wait from one to three days, after which two smaller injections are applied. This method is preferable to the single, early administration of 10-Cc. of milk protein. Although the larger doses of milk protein, after parenteral introduction, are usually tolerated without disturbance, disagreeable complications have been observed, and it must be kept in mind that arthritis constitutes in itself too great a danger for the cells of the body to justify a greater strain upon the power of resistance.

While Heissen[1] recommends 5 Grams of acetyl salicylic acid per day, it is usually possible to get results with 3 or 4 Grams of the soluble preparation.

In order to enhance the effect of the milk injection, the body surface may be treated with long-waved rays; best, blue light. Ultraviolet rays are less suitable in these acute affections, for the reason that they do not permeate the skin nearly so deeply.

Very good experiences may be had with the metal arc light (Mebolith). The mixed rays secured by this apparatus exert an analgesic effect in addition to producing plasma activation.

Translated from the German original.—Ed.

HARD LUCK

When I was but a monad cell,
An age or so ago,
I had a strange desire to dwell
Upon the earth below.
Revolving always in the air
I felt was a mistake,
And so kind Nature put me there—
A Tadpole in a lake.

But wriggling, wriggling in the mud,
Or water, grew too time,
And so, as I was of the blood,
A Bullfrog I became.
And just because I changed my mind
About each wished for place,
I came one awful day to find
I'd joined the human race.

Now I recall those happy days
When, bloated out with air,
I bobbed upon my varied ways
Without a thought of care.
And I remember when a Tad,
No other wish had I
But just make other wrigglers mad
To see me darting by.

Ah me, and now I am a Man
With wife and children, six;
Worse off than when I first began
And all through Nature's tricks!
And what is more than all, they say
Man is the highest state!
Right here on earth I've got to stay—
Great Cæsar! What a fate!

—From *Bohemian.*

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Solution of Surgical Problem No. 8

THE readers will recall that, when the eighth surgical problem was submitted in the February issue, it was stated that the problem was a rather difficult one; that the case came to operation on an erroneous diagnosis, and that the final findings would be submitted without comment alongside of such solutions as may be sent in.

Frankly, I did not expect more than one or, at the best, two discussions, for the simple reason that very few general surgeons take a deep interest in brain surgery.

Imagine my agreeable disappointment to receive no less than seven contributions on this problem, of which I publish the three most interesting, in keeping with the limitation of space.

For the benefit of those readers who may not have handy their February copy, I restate the problem:

The patient is a boy, fifteen years old. He has parents who are living and in good health. He has one brother living, in good health. Two sisters died in infancy of a cause which can not be elicited. The parents are immigrants, Lithuanians, of fairly good intelligence. The mother states that the child has been in good health up to his fifth year. He had then, to judge from her description, either influenza or pneumonia. Since then, she noticed that he was not strong, that he could not walk as well as before and also that he frequently complained of severe headaches. This went on for about two years. The village physician had given some medicine and had advised him to go to a large city to enable the patient to receive scientific care, but they lacked then the means. About that time, everybody noticed that the head was becoming large and larger in size.

The subsequent story, elicited on inquiry, shows that his parents emigrated to America about eight years ago. While in New York, a spinal puncture was proposed by a physician in some "very large hospital," but refused by the mother. Later, the child could not walk at all and had to remain in bed or propped up on a chair. A priest came often to the house and gave him some instruction. In intelligence, he appeared to be the same as his brother who is his senior by a little over a year. On the advice of the priest, the patient is brought to the hospital from the country, for diagnosis.

Examination shows that, in spite of the rather miserable condition, the boy is well developed. He looks pale and lean. Osseous system well developed. Temperature, 98.4° F. Hydrocephalic head of enormous size. Sutures and fontanelles can not be mapped out.

Left arm flexed in the wrist joint, weak and thinner than the right. Both feet are in pronation. The right side of the face is less developed than the left. Pupils equal. The boy has difficulty in pushing the tongue to the left. There is horizontal nystagmus, eyes can be moved with ease, but the patient has some difficulty in turning his head to the left.

The muscles of the small fingers are atrophic on both sides, apparently more so on the left, and slow reaction of degeneration. Motions of the arms poor, the left one worse. The muscles of the legs are spastic, especially so on the left limb, rendering standing and walking impossible. Sensibility is normal. Patient has good control of the bladder and anus. Patellar reflexes are exaggerated on both sides, though more pronounced on the left. Ankle clonus and Babinski reflex present. Pupils react slowly. Patient can not see figures at a few inches distance, but can differentiate between light and darkness.

Spinal puncture shows 230 mm. pressure. A little over an ounce of spinal fluid is obtained. Patient vomits and cries out from headaches. Pulse rapid and easily compressible.

Two days later, spinal puncture is repeated, less than an ounce being slowly obtained, with the same violent reaction which lasts for two days. The violent headaches continue. Why this intense reaction? Why so little spinal fluid on puncture?

NOTE: The patient was operated on later on an erroneous diagnosis. An opportunity was afforded our readers to send in their views. Instead of a comment, the details of further observation, including post-mortem findings will be given.

Discussions

Colonel George Acheson, of Kingston, N. B., Canada, who needs no introduction to regular readers of this department, writes:

"You have presented a difficult one this time, and, on first reading, I decided to let it alone, as something beyond my limited knowledge and diagnostic ability (????!—Ed., Seminar). However, on looking over it again a few days later, I seemed to see a faint glimmer of light, and I wondered if we had not here a case of chronic cerebrospinal meningitis—a rare occurrence, surely, where life and symptoms had lasted ten years.

"My reasons for this diagnosis are:

"1.—The early history of the case: In his fifth year of life, the boy had an attack of pneumonia or influenza; in all probability, some pneumococcal infection, and we know that meningitis often follows this type of infection.

"2.—The appearance of hydrocephalus, gradually increasing, resulting from an obstruction to the outflow of cerebrospinal fluid from the fourth ventricle to the subdural space, although this might be explained as the result of pressure by a tumor of the pons or cerebellum on the aqueduct or fourth ventricle, obstructing the outflow and dilating the third and lateral ventricles. The history, I think, excludes tumor, and I would judge that this acquired hydrocephalus was caused by posterior basic meningitis, at first acute, of the cerebrospinal variety, which later became chronic.

"3.—The symptoms detailed are all such as might be expected from intracranial pressure, except possibly the presence of exaggerated patellar reflexes; for, one would look for these to be decreased or abolished. The paretic and irritative signs, being more marked on the left side, point to a greater development of degenerative changes and pressure in the right cerebral hemisphere.

"The reason why so little fluid escapes on lumbar puncture is, because there has been obliteration of the normal channels for the outflow of cerebrospinal fluid.

"The intense reaction noticed after lumbar puncture may be explained by the sudden relaxation of pressure in the upper part of the canal, with increased tension in the cavities above the occluded portion of the channel.

"Perhaps all this only shows how great is my ignorance of brain anatomy and pathology, but I submit the foregoing solution for what it is worth as a contribution to the discussion of this very interesting case."

Comment. While it was my original intention to avoid commentation, I feel that, today, more so than ever since we began this character of surgical study, I ought not, as editor of this section, to allow the contributions to appear without some comment. In a rather personal communication to the managing editor, Colonel Acheson referred to one of my previous expressions of his ability as a surgeon as "taffy", and I leave it to the readers to say whether I was justified in putting several question- and exclamation-marks in the above text. No, Colonel, I am the last man on earth to bestow praise on any one who does not merit it. Among those who know me, I have the somewhat ugly reputation of being rather hypercritical, and I say to you that your discussion is splendid. While you and I are not agreed in minor details, you have interpreted the case in a highly logical manner, and you betray either a great quality of modesty or else deliberately seek to flabbergast me by saying: Now, there, you colleague across the border, see that you come up to my standard. What is more, I confess right now that you had the correct diagnosis virtually in your hands though, even as I, you were not certain of it, because the thing is elusive in tangible dimensions. Please do not consider this "taffy". It is a tribute from one worker to a fellow surgeon.

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Dr. R. B. Gray, of Bay Shore, N. Y., who was introduced to our family in the March issue, and who does not yet know that he has been invited to become a regular collaborator, sends in a modestly worded letter saying something about lack of library facilities in the small towns, and then proceeds to give us a dissertation which convinces me that he must have a library of his own, one that cannot be stolen or destroyed.

Dr. Gray writes:

"From the general appearance of the patient, we are led to the impressionable diagnosis of hydrocephalus. We also note that one side of the face is smaller than the other and think of hemiatrophy due to porencephalus. This diagnosis could be cleared up by following the technic outlined by Danby of Hopkins. Draining the ventricles by tapping and x-raying the skull. The result is a ventriculograph which is of service in differential diagnosis.

"Hydrocephalus may complicate birth; we are not interested in that type. We are involved with the type which develops later. Hydrocephaly is essentially a disease of infancy or early childhood, as the chance of making a diagnosis after the fontanelles have closed and the sutures are firmly interdigitated is slim. So that we have (a) congenital, (b) acquired, (c) secondary. The last type may be due to any intracranial pathology, such as meningitis, tuberculoma, glioma with cystic changes, hydatid (echinococcus) or cysticercal involvement of the ventricles.

"The mental state, as compared to that of a supposedly normal older brother, is not incompatible with hydrocephalus, and the pupils reacting sluggishly but being equal, as well as the amblyopia approaching amaurosis, are symptomatic and suggestive. The abnormal hydrostatic pressure of the cerebrospinal fluid is unusual but can occur in hydrocephalus. The small amount obtained, while such a large amount is present, shows that the communication between the ventricles and the arachnoid space is cut off. The intense reaction may be due to the cranial contents

being forced towards the point of least resistance and engaging in the foramen magnum.

"The spasticity of the legs is in keeping with hydrocephalus and, in line with this, we have evidence of upper motor neuron involvement, expressed by the Babinski ankle-clonus and exaggerated patellar tendon reflex.

"To complicate this, we have the opposite type, as expressed in trophic wasting, flaccid paresis with reaction of degeneration showing lower motor neuron involvement and the change in the electrical reaction shown by the following: Instead of K C C greater than A C C : A O C greater than K O C, we get the following: A C C greater than K C C : K O C greater than A O C and an absence of reflexes. The flexion of the left hand on the wrist is possibly due to a selective action of the condition that caused the flaccid paralysis, the flexors of the arm have escaped and the extensors have not, so that, even if only of normal strength, the flexors overcome the action of the extensors and flex the hand.

"The centers in the cord for the control of the rectum and bladder are intact, as are the sensory tracts. This rules out syringomyelia, spina bifida, spinal tumors whether extra- or intramedullary.

"The headache, vomiting and optic-nerve atrophy may not be due to hydrocephalus alone, but any increased intracranial tension, (as tumor), can do the same thing, and the same may be said concerning nystagmus which, in this case, assumes the usual form, horizontal, although it may assume the rotary or the vertical type. Lesions of the cerebellum, mid-brain and tegmentum pontis also present this symptom.

"The difficulty in rotating the head may be due to the impaction of the cranial contents into the foramen magnum, or a lesion of the spinal accessory nerve. Abscess can, I think, be ruled out as there is no history to warrant its presence, nor any rise in temperature.

"When we try to analyze the causes of secondary hydrocephalus, we find that the following intracranial abnormalities can produce it: meningitis or tumor. We then find Dandy's classification useful and see that the obstructive type may press on the aqueduct of Sylvius, foramen of Lushka and Magendie, occluding them and causing the ventricles to become overfilled and to dilate.

"The other type means that the cisterns or their main branches are closed and the fluid cannot drain from the ventricles into the subarachnoid spaces. Tumor or a meningitis may also produce this. Ventriculography may clear the diagnosis.

While meningitis is a complaint met frequently in childhood, it can, I think, be ruled out as there is no history to warrant the assumption. Glioma in childhood has been reported. Tuberculoma may occur. In children, most of the tumors are posterior or infratentorial. We now must take into the case the consideration of the febrile attack when the case began. It was of sufficient severity and duration to warrant the diagnosis of pneumonia or influenza. It may have been an attack of encephalitis or poliomyelitis, but we have no history of coma or convulsion. It may have been the reaction to the invasion of hydatid or more probable cysticercus, with an involvement of the ventricles and consequent hydrocephalus.

"Diagnosis: Hydrocephalus due to obstruction caused by cysticercal infection. Porencephaly due to cerebral thrombosis and encephalitis (poliomyelitis)."

Comment.—The above is an exhaustive and able representation of the problems involved by the case under consideration. As will be seen, most of the arguments have been considered at the time, and, in spite of certain evidences, the exact diagnosis was not arrived at during life.

It is for this, if for no other reason, that the problem is highly instructive, and applicable as a precedent in similar experiences.

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I have a short and sweet letter from a physician in a small town in a southern state, which I quote in part:

"I have read with great interest your surgical problem No. 8, and I take the liberty of informing you that I am unable to diagnose the case. But, as you yourself admit that the operation came about on a mistaken diagnosis, I do not see how you expect a general country practitioner, like myself and others in my class, to benefit from such a discussion. If I had such a case, I should do exactly what the country physician in Europe has done, namely, send the patient to some surgical center for the purpose of obtaining specialistic advice. We country doctors are supposed to give first-aid care to save life. But, in serious chronic cases, especially of such a complicated and important organ of the human body as is the brain or spinal cord, I say: Hands off! I have one purpose in writing you and that does not apply to the present problem, but to some of the preceding ones. They have been very instructive to me and I have derived great benefit, both from the discussions and your comments. But, of what possible benefit can No. 8 be to me?"

My answer to such a letter went by mail. I am offering no apology for having presented a difficult case. If it inspires many towards things worthy of our scientific training and vocation in life, then my scheme of alternating the practical with purely speculative must satisfy all classes of readers. The time of publishing magazines, whose principal literary output consists of rehashing material that can be found in any textbook, has gone forever. We are no longer in the kindergarten class politically, and, in the thirty odd years that I have lived in the United States, I have seen the medical sciences ascend towards the highest peak. We need no longer go to Europe to learn. We have the mate-

rial and personnel for original work. While we are not expected to follow the footsteps of the great scientists engaged in research work, we are supposed to keep abreast of the times or else fall into the rut of that class of practitioners whose greatest scientific difficulty seems centered in knowing what prescription to write for a case of measles or acute bronchitis.

All this has been said by way of pointing out that we need the right kind of spirit. That it is not as good as it should be, I know just through this department. This journal has thousands of subscribers. Why is it that only a dozen, certainly less than twenty, send in discussions?

Surely, that much confidence can be had in the writer to realize that he would not hold up any one to ridicule. Is it really necessary to point out that I have attained an age when I seek neither laurels nor material gain, but simply desire to give my younger confrères of the English-speaking peoples the benefit—little though it be—of years of hard work and toil both in clinical experience and study? I still remember the crass ignorance and lack of skill with which I began the practice of medicine. I, too, practiced in small towns and know what it means to be subject to harsh criticism, whether merited or not. I have had failures, as every surgeon must have. I have taken every precaution to guard against them. Whenever possible, I leaned on more-skilled men until I learned enough and acquired technical dexterity enough to feel that I could solve a surgical problem with a relative degree of safety to the patient. I may not even today perform a difficult operation with the artistic skill of the great surgical virtuoso, but I can do a dissection without unduly exposing the patients to the dangers of a too-prolonged stay on the operating table. And all this came because I had the will to attain, even if I had to deprive myself of the luxuries of life. One cannot be a good surgeon and spend night after night at the poker tables or at extravaganza shows or in dance halls. One may succeed for a while in picking up a patient here and there from such sources, but whether one can hold them as life-long friends is a question. I have said all this by way of introducing a gentleman whose letter betrays a spirit which I advise all to emulate. I publish it, as it was sent me, without altering a single word. Let me introduce to you

Dr. F. B. Cullens of Ozark, Alabama: "Excuse me, I am no surgeon; but, years ago, on the 'firing line', I had to operate occasionally in an endeavor to save life. Hospitals were scarce and the clientèle poor—wretchedly poor.

"(At some later date, I may take up the question as to what is the matter with medicine today? With its ultrascientific, high-class specialistic and costly methods.)

"I am interested in Problem 8. Of course, it was encephalitis with 'dropsy of the brain' (excuse my Saxon) with intracranial pressure, more pronounced on the right side, although the whole motor cortical zone—the 'internal capsule'—is involved, invalidating trophic and motor 'functioning.'

"Etiology: The old influenza, possibly its sequelæ, or 'leavings.' These cases are usually hopeless when seen by the physician.

"I had one such case once, in a boy of six, and I offered to 'tap.' The mother declined. 'I will leave him in the hands of the Great Surgeon-Doctor,' she said, grabbing the child to her bosom. I bowed profoundly and said nothing. The child is dead long ago.

"Had she allowed me, I should have gone in there with trocar and cannula, should have hoped to reach the arachnoid space, the secreting and offending—in these cases—membrane. But I should have promised little. Should have followed up with symptomatic treatment with possibly a little iodide, codliver oil, etc.

"The nystagmus and all the symptoms you enumerate are simply pressure symptoms. There was no indication for spinal tappings, in fact it was contraindicated. Should have gone to the seat of mischief—the head.

"But, I am out of the game. Tried to get in the late scrap. Uncle Sam says: 'Too old!' Had a boy in it. My father was a confederate soldier. My grandfather was a revolutionary soldier. I come of fighting stock. I like your writings, you have a trenchant pen.

"I am using life's evening by exploits in the field of literature. I have a book now in England for publication and when 'out,' will have the publisher send your magazine a copy. Vale."

Solution of Surgical Problem No. 8

At the time this case was seen, the diagnostic methods of surgical lesions of the brain had not attained the scientific scale of today. For external reasons, costly methods of examination, especially expert radiography, could not be had. The diagnostic difficulties, even after spinal puncture, were fully realized, as it was appreciated that the case was virtually a hopeless one. Nevertheless, palliative surgical measures were distinctly indicated through the fact that the pain was horrible and not relieved by hypodermics of morphine and atropine.

The diagnosis of internal hydrocephalus seemed certain. The limited amount of fluid obtained on spinal puncture led to the only possible conclusion: The foramen of Magendie is closed or obstructed and there is no communication of the ventricles with the subarachnoid space.

The duration of the phenomena strongly suggested a congenital hydrocephalus, exceedingly chronic in character and, accordingly, slow in development. Tumor was considered and rejected. True, a tumor of the cerebellum could have compressed and occluded the foramen, but it was ruled out because, at no time, was there vertigo or the characteristic ataxia.

With all this in view, it became evident that neither lumbar puncture nor de Sanctis' permanent drainage would have proved of value, as they would have afforded no relief to the brain. Puncture of the ventricles, as practiced by Bergmann, Keen, Mayo-Robson and others, seemed logically the proper procedure. Clipault's advice, to combine this procedure with a craniectomy to decrease the cranial capacity, seemed even more promising of beneficial result. This latter plan was carried out in the hope of evacuating as much fluid as was necessary to allow the dura to collapse corresponding with the amount evacuated and, finally, to prevent the development of negative pressure. A permanent fistula, which could be opened or closed almost at will, was possible only after craniectomy.

The operation was performed in the usual manner over the right parietal tuber, the osseous prominence permitting the removal of bone of the size of the palm of the hand, which should prove sufficient to reduce the inner capacity of the skull. The dura showed no pulsation on exposure. Puncture of the lateral ventricle resulted in a strong stream of fluid, which was very clear. The puncture had to be stopped for a few minutes by occluding the instrument, because the pulse became irregular. When the sterile container registered 105 Cc. of fluid, it was noted that the dura showed some pulsation which became increased when more fluid was gradually and repeatedly allowed to escape—a total of 230 Cc. in about half an hour.

The pulse went down to 108 and, the very next day, the patient was free from headache. In a few days, even the power to discern between light and darkness seemed increased.

Two weeks after the operation, the patient complained of headache and vomited. The fistula opened, evacuating sufficient fluid to saturate the dressings. The general condition again improved.

On the twenty-fourth day after the operation, the patient became comatose, the temperature registering 107°F. Exitus at about 2 a. m.

A partial necropsy revealed many minor changes, which are of no direct interest for our purpose. Examination of the cerebellum showed it to be enlarged and cystically degenerated above. The left hemisphere formed a cavity with thin walls of yellowish color. The middle part of the cerebellum appeared filled with small cysts. A cyst containing watery fluid had partially filled also the right hemisphere.

The fourth ventricle could not be reached from the medulla, the obstruction being due to cystically degenerated tissue, grayish and transparent, which reached the roof of the ventricle. The entire growth was about the size of a tangerine, firmly attached to the floor of the fourth ventricle and extended into the brain from which it could not be sharply identified, as it appeared to extend into the brain substance diffusedly. The microscopist reported glioma.

Surgical Problem No. 10

A man, aged 43, merchant, with nothing noteworthy about his family and past history, consults you for pains in his right lumbar region and hematuria. The pains are dull, draggy in character. Other symptoms do not exist. The patient claims to have passed bloody urine for several weeks past; had consulted his family physician, who found some albumin in his urine and had an x-ray taken of the right kidney. This showed no shadows of stone.

Your immediate physical examination reveals nothing abnormal in the abdomen. Bimanual examination of the kidney is unsatisfactory to you, because of the patient's corpulence.

You notice inguinal adenopathy, slight varicocele, both on the right side. There is also some edema of the right leg. The patient denies venereal disease and claims not to have seen the varicocele and swollen leg before his first attack.

Required: 1.—Diseases to be had in mind for the establishment of a differential diagnosis.

2.—Methods of examination.

3.—Therapy, temporary and final.

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE.

Carefulness

"For want of a nail the shoe was lost; for want of a shoe the horse was lost; for want of a horse the rider was lost, being overtaken and slain by the enemy; all for want of care about a horse-shoe nail."—Franklin: "Poor Richard's Almanac."

IF I ever feel roused to raise a voice of protest, it is when I see how much mischief is wrought by carelessness. To contemplate how much money, food, and other resources are wasted, how many lives are lost, how many children are made cripples for life, and how many others go to the bad for lack of careful home training, should rouse us to do our part towards the development of better habits and a public sentiment to support them. I am often moved to ask why carelessness is such a nearly universal fault of the American people. We pay a staggering toll of lives and property every year to this juggernaut. If there is any national trait more wasteful than this, I do not know what it is. So "day by day, in every way," we pay this tremendous tax of lives and dollars, and at the most we grumble, but we *do* little to change it.

The fact that this enormous waste attracts so little attention is only another instance of carelessness.

If anyone questions the statement that, as a people, we are especially prone to carelessness, he needs only to exercise his observation to be convinced that many nations, even partially civilized ones, surpass us in habits of thrift and carefulness. The reason is twofold: First, we do not bring home to the guilty parties the consequences of their carelessness as we should; and, second, the abundance of material resources with which we are surrounded causes the thoughtless to feel that carefulness, thrift, and economy are not necessary; indeed, they look upon those qualities with a certain degree of contempt. The poverty in which a large part of the human race lives has a tendency to produce carefulness. They must make everything last as long as possible; so, poverty begets care and economy. This is because their poverty is not their fault, but is due to the economic conditions into which they are born. In this country, poverty does not have the same tendency to foster carefulness, because most of it is due to shiftlessness. Here, most people who will can rise above poverty. The poveray of the old world's poor and that of our poor might be contrasted thus: The former are thrifty because they are poor, the latter are poor because they are unthrifty.

Our Careless Habits

The indictment against our habits of carelessness is a long and formidable one. It would be possible to enumerate scores of ways in which we are forced to submit to this waste and loss. The following list is far from complete, but will suffice as an illustration:

1.—Every year, the slaughter of people by automobiles is growing greater, until even our easy-going authorities are waking up to the idea that something must be done.

2.—Railroad accidents are taking a heavy annual toll of lives and dollars.

3.—In the various industries, such as manufacturing and mining, thousands of workers are killed, either through their own carelessness, that of their fellow employes, or that of their employers.

4.—Fires in buildings and forest fires cause a considerable loss of life and an enormous loss of property every year.

5.—Careless coughing, sneezing, and spitting spread disease, resulting in much sickness and death.

6.—The Fourth of July celebrations used to cause a long list of deaths and maimings, and the great reduction of these in recent years shows what can be accomplished by proper legislation properly enforced.

7.—The Dead-Letter Office is a costly and striking monument to the careless ways of our people, as I shall show below.

8.—The great number of murders and robberies, reports of which fill our newspapers, are the indirect result of carelessness on the part of those who are supposed to make and enforce our laws.

9.—Doctors, druggists, and nurses are not

perfect in carefulness, because they are human, and nothing human is perfect; but, it is gratifying to be able to say that there is perhaps no class of persons who have and maintain a higher standard of conscientious care than do these three professions.

It is true, we hear now and then of some surgeon sewing up a sponge or an artery forceps in the abdomen, of druggists filling a prescription from the wrong bottle, or of a nurse giving the wrong medicine; but such cases are so rare that they do not materially affect the confidence of the intelligent portion of the public.

A druggist once told me this story; whether fact or fiction, depends upon his veracity:

"I had started a drug store in a western city and, as trade was rather slow in coming, I kept down expenses by doing without a clerk and by sleeping in the back of the store. One night, soon after midnight, I was wakened out of a sound sleep by a ring at the door-bell. It was a ten-year-old boy with a prescription. Among other ingredients, it called for a little quinine with a little acid to help dissolve it. I was very sleepy, but I put up the prescription. The boy paid me and started home on a run. After locking the door, I went behind the prescription case to put the bottles back into their places. To my horror, I discovered that I had got hold of the wrong bottle and used morphine in place of quinine. (It was in the days before the law required the red label). I rushed to the door and looked up and down the street. The boy was not in sight. I went back into the store and collapsed into a chair. I had absolutely no clew. The prescription gave no information as to the patient's residence. It had been written by a doctor living in another city, six months before. My imagination pictured myself on trial for manslaughter, and perhaps receiving a prison sentence. I never knew that so much mental anguish could be concentrated in such a few minutes. Suddenly, the door-bell rang again. The police! was my first thought. But, in a moment, I realized that there had not been time for that. I went to the door and opened it. There stood the same boy, crying. 'Mister,' he said, 'I fell down and broke the bottle. My father will lick me if I come home without it. Won't you please give me another bottle?' I reached out and pulled him in. I could have hugged him. 'All right, my boy; I'll give you another bottle of medicine, and I won't charge you anything for it, either.'

"With my heart singing with joy, like a criminal reprieved on the gallows, I put up the medicine again, gave the boy a handful of candy, and prepared to go back to bed. But, the reaction was so great that I was in a cold perspiration and trembled in every limb. I did not sleep till almost morning, and my first act the next day was, to put on my morphine bottle a grotesque label of my own devising that would be fool-proof against carelessness."

The Cost

It is obviously impossible to get complete figures showing the cost of carelessness in lives and money; but we can get an approximation that will be impressive by considering some of the points referred to in the foregoing more in detail.

The one that comes to our notice most constantly and strikingly, because daily, is the slaughter of the innocents by the reckless driver of the auto that carries death and mutilation to old and young, strong and weak.

It seems to me that, as a nation, we fail to give proper consideration to the dangerous things which we do. We would not give a railroad locomotive the privileges that would make possible the slaughter of hundreds and thousands of human beings. It is limited to rails and is not permitted to be driven except by engineers of long and thorough training. But, we give to a far more dangerous engine complete freedom of crowded streets and permit it to be driven by inexperienced persons, drunken men, boys and girls, and persons with defective eyesight and hearing. People can keep out of the way of a locomotive, for they know where it is to be found, but even the most careful pedestrian cannot always keep out of the way of reckless auto drivers, if he goes upon the street at all. True, we have laws, but they are not enforced, or, at the best, so perfunctorily and uncertainly that their effect is hardly perceptible. We seem to think that passing a law will wipe out an evil, and forget that the best laws have no value unless enforced.

Occasionally, some city is fortunate enough to have a court that does its duty, and the good effect is apparent at once.

Political pull is, in this matter as in so many others, the curse of the community. Fines are treated as jokes by wealthy speeders. Nothing short of prison sentences and heavy damages will cure the evil. We have so much consideration for the man with money that we simply cannot bear to humiliate him by putting him in jail!

In newspaper reports of automobile acci-

dents, we often see the statement that the driver was not held by the police because the accident was unavoidable. Right here is the source of a great deal of the evil. That word "unavoidable" is a very elastic one. An accident may have been unavoidable at the rate the machine was moving, but it is surely common sense to require drivers to move slowly enough in a crowded city to have the car under perfect control and to be able to stop instantly. If it is pleaded that this would reduce traffic to a snail's pace, then we say that money and time are less important than human lives. Anything would be better than the present slaughter and maiming.

Of course, we should be fair to drivers. There should be laws to punish "jaywalkers" and parents who allow their children to play in the streets or to go alone into crowded districts. Many European cities have for years had laws to inflict fines upon careless pedestrians who get into the way of traffic.

It seems incredible that any community should allow an auto to be driven on its streets by mere children and by persons who are taking their first lessons in the art, but examples are so plentiful that they occasion little surprise. It is a daily sight, especially in the outlying districts, to see half-grown boys and girls driving machines.

Last fall, on a Sunday afternoon, when the boulevards were crowded, I witnessed this occurrence: A number of cars were held up at a street crossing waiting for the signal to move. When it came, one car, instead of going forward, leaped backward crashing into the car behind it, which happened to be the one in which I was riding. The driver had reversed without knowing it. He admitted that he had had his car only two days and was learning. Such things ought not to be possible, and would not be with proper laws properly enforced. Everybody on the street is in danger from reckless and ignorant drivers.

High Mortality From Accidents

In the first 24 days of 1923, autos killed 42 people in Chicago alone and the death rate from this cause averages about two per day. On the 16th of February, it was 6. The number of injured (many crippled for life) is much larger.

In 14 states from which reports for 1922 are at hand, 8000 persons met death in auto accidents. What a furor there would be if 8000 met death in a wreck or a fire!

In the the years since 1913, the records of the Municipal Court of Chicago show that 284,000 cases were before the court for speeding or otherwise violating the laws relating to automobiles. Out of this number, only 13 were held to the Criminal Court! 1058 were sent to the House of Correction and 123,000 were fined. In a most discouraging proportion of cases, the fine was merely nominal—so small as to make the matter a joke and give wealthy speeders something to boast about.

On the steam railroads of the United States, the Interstate Commerce Commission reports for 23 years past a death roll from accidents of almost 10,000 a year, including employes, passengers, and all other persons. It is not possible to say how many of these were due to carelessness and how many were unavoidable. An old railroad man expressed the opinion to me that 90 percent were due to carelessness.

Industrial accidents mount up to a high figure, but I have no statistics at hand. During recent years, the number has been greatly reduced by legislation requiring safety devices on machinery and by better instruction of workmen in precautions for safety.

Mining accidents are still entirely too frequent; one careless workman may, and often does, endanger the lives of hundreds of his fellows.

Fires in buildings and forest fires cause a good many deaths and enormous property losses. The careless smoker is responsible for many of these; he tosses away a half-burnt match, a cigarette butt or a cigar stub, without concerning himself whether they are out or not.

In Chicago, in 1921, the fire losses were seven and one-half million dollars. In 1922, in the state of Illinois, they were twenty million dollars.

The National Board of Fire Underwriters puts the figures for the United States, in 1921, at $495,000,000 (nearly half a billion). Of this, almost $26,000,000 is attributed to "smoking and matches." The figures are eloquent.

The Forestry Service of the United States reports that every year from eight to twelve million acres of timber are destroyed by forest fires, and this great waste occurs in spite of the fact that we are using up our timber and lumber resources four times as fast as they are being grown. Forest fires are nearly all due to careless smokers, campers, and hunters; the principal exception is lightning. It is gratifying to see that both the Federal and the State governments are waking up to

the need of forest control and reforestation.

The great frequency of robbery and murder is largely due to the easy-going indifference of our legislators and our authorities whose duty it is to enforce the laws. A short time ago, Sir Basil Thomson, in control of detectives at Scotland Yard, London, was on a visit to this country, studying our methods of catching criminals. He stated that the London police seldom carry revolvers. They may if they wish, but the sale of deadly weapons is so thoroughly restricted that few criminals have them, and they hesitate about using them because, there, murder means hanging.

Last year, in England, there were 63 murders, seven of which remain unsolved. In the other 56, a conviction was secured in every instance and, when the sentence was hanging, it was carried out. Could there be a more convincing argument for capital punishment?

Why cannot we do as well in America? Because of our careless and indifferent attitude towards the whole matter. Any criminal can get firearms, and he is not afraid to use them; because, if he kills his victim, he knows that the chances are enormously in his favor of getting off scot free, thanks to crooked politicians, mushy reformers who pity him but not his victim, indifferent legislators, and, most emphatically, indifferent voters who put crooked politicians into office. Look at the case of one notorious Chicago criminal, guilty of numerous killings, convicted repeatedly, but boasting of never having spent a day in prison, and making good his boast! Why? Because the voters are too careless to remember and punish at the polls the officials who so brazenly flout justice and favor such arch-criminals.

The Dead-Letter Office

An official of the Post Office Department requests me to publish the following information, as part of a campaign of publicity to improve the service by inviting the cooperation of the public.

Every day, in the United States, 375,000 pieces of mail are held up because of careless addressing, packing, or failing to put the sender's name and address upon the wrapper. The salaries of the extra employes made necessary by this carelessness amount to over a million dollars a year, and the salaries are not the greatest part of the expense of the Dead-Letter Office.

If the public would consider the cost to every person in the nation, not only in dollars, but in delay to all the mails, the appeal of the Department would not go unheeded. But the work of the Dead-Letter Office is increasing instead of decreasing. A special effort was made by the Post Office Department before Christmas to secure the cooperation of the public. The importance of correct, complete addressing and of careful wrapping of packages was urged with greater emphasis than in previous years. But, in spite of that effort, the Dead-Letter Office reports an increase of 25 percent, over the season of 1921, of misdirected, undeliverable, and unmailable letters and parcels. Many of the latter are shapeless, their contents ruined or partly missing because of insecure wrapping or tying. And the senders are probably uttering maledictions at the inefficient postal service, when the fault is their own. And, you and I are taxed to pay for it.

Apropos of this subject, the Postmaster of Chicago invites the public to visit the new parcel-post building of the Chicago Post Office, at Canal and Van Buren Sts., and see the remarkable mechanical contrivances for handling 10,000 sacks of parcel mail per hour. With its eight miles of belt conveyors and other ingenious devices, this building of six stories and a block in length marks a new era in the handling of bulky mail and its importance and value to the postal service can scarcely be overestimated. Not only our Chicago readers, but outsiders, visiting the city, will find the building very interesting to visit. Visiting hours are from 11 a. m. to 3 p. m.

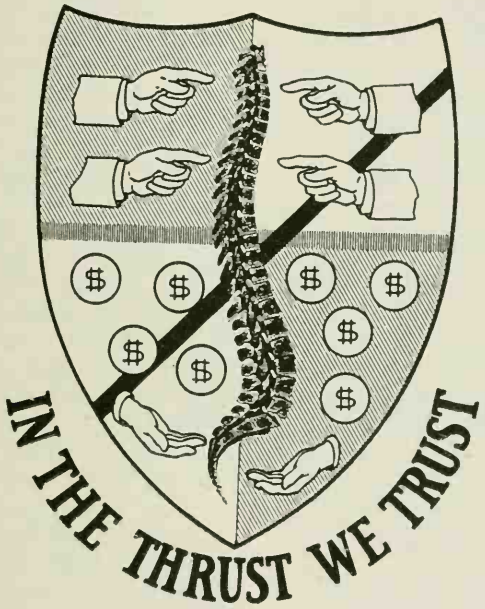
2920 Warren Ave.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

Talking of Adjustments



Suggested Escutcheon for Chiropractors

A Spine rampant, *or*, set upon the center of an escutcheon, with four hands at thrust, *rouge*, in dexter and sinister quadrants chief. American dollars couchant, *argent*, over field, *vert*, with two hands, receptive, *noir*, dexter and sinister base. Bend sinister* traversing escutcheon.

*Denoting Illegitimacy.

I HAVE hit the Sawdust trail—follow me, O, my brethren, ere the worm turns and evades you (it is such a nice fat one, too) and the light in the window ceases to burn! Surely, you know that while ignition proceeds "the vilest sinner may return" and be welcomed, BUT the beacon has been beckoning ever since 1895 and we must not expect it to shed its rays to show *us* the way home *much* longer. A host of really wise boys and girls (of all ages) are gathering, day by day, in that Dear Davenport, Iowa (and elsewhere), and making the proper (financial) arrangements to leave us out in the cold, cold dark! *They* have chosen the better part (the vertebral column) while we, like the Prodigal Son, have been making riotous attempts to hog the whole human body. Oh, gentlemen! *can* you not, *will* you not see, "before yet" it is everlastingly too late, that a part (if you control it) is better than the whole, and that the (more or less forcible) *laying on* of hands, or correct "thrust," is better than the *lying-in* chamber and such absurdities? Are you so wretchedly maladjusted that you cannot comprehend the grand symphonitic simplicity of the Palmerian Practice? Kan you not sense the Klarity of the Kiro-Prac-Tic Konklusions? By keen koncentration and a study of the beautiful Coat of Arms I have devised as a token of gratitude for Light received (see above), can YOU not grasp the fundamental fact that without a SPINE man would be a jelly fish? What, I most prayerfully ask you, would a man sit on, had he no spine? Where, tell me, would he carry his head—under his

arm or between his knees? How could his ribs be held in position were there no vertebral column, and, if *they* were loose, how in the name of common sense do you expect his viscera would stay where they are supposed to be?

Be honest, be frank, be rational, and admit —Oh, Doctor, you *must*—that the Spine is the very keystone of the human structure. Remove that, derange it even, and down goes the whole composite man in slithering ruin! One shudders even to *think* of the consequences.

Permit the poorest physical specimen to retain his vertebral column intact and deprive him of half his extremities, his tonsils, teeth, appendix and other unconsidered trifles, and he will still be a prodigy of physical perfection compared with a *spineless* Hercules!

"Done With the Hands"

You dare not deny it! You cannot escape that which is so definitely demonstrable. You are compelled, once you face facts fearlessly, to admit that the Spine is the very backbone of our being. Isn't it? Well, then, there you are, and the way is now perfectly clear for you to sit with me at the feet of the "GREAT" men who have thrown such an effulgent light upon dark places, and there absorb the tantalizingly titillating Truths of Chiropractic (term derived from the Greek, the *real* "old classical Greek"—and "meaning literally [see literature] "hand-done" or "done with the hands.").

Were one inclined to frivolity (which, under the circumstances, Heaven forbid!), it might be remarked that things done that way are usually *"done"* to the queen's taste. *Vide* one's collars from the hand laundries, etc. But, we have no time or inclination to exercise our *orbicularis oris* or emit Ha Ha's! from our *os* when the call of the Chiro clarions clear. No indeed; not we! We realize at last that we have done mere machine-work in *our* study of anatomy and paid a whole lot of attention to femora, pelves, flat bones, irregular bones, long bones, short bones (and, alas! certain somewhat alien, cubical and spherical osseous substances) when we should have been devoting our entire time to those twenty-six (thirty-three in early life, Doctor, remember?) distinct bones which compose the normal human spine.

Had YOU and I studied that calcified column as we should have, we would not now dare to ask ourselves (as we perchance do) "Is it the axis or the atlas which has no body but two lateral masses instead, and which of 'em has a tubercle instead of a spine and another small tubercle in front?" Or, even, perhaps: "How many centers of ossification *has* the atlas and when does the process begin, at the sixth or the seventh fetal week? And when *does* it end—at the twenty-fifth or the twenty-eighth year?" A Chiropractor who has given just one year of his life to contemplation and manipulation of the vertebral column (from the Latin verb *vertere,* to turn, I believe?) could impart that information with his eyes bandaged and hands tied behind him! Those fellows *know* their spine and can turn (L. *vertere*) it any old way to their financial advantage. What do *we* do? Ah, what indeed? We fumble things, we look fatigued and let these osteal operators wax opulent.

They (the D. C.'s) may not be on distinctly speaking terms with the *ligamentum patellæ* or shake hands very often with the *sella turcica*; but, from poor Atlas holding up the "old bean" to the coccyx (cuckoo) at the other end of the spine, they can (they will tell you so) travel blindfolded and even play five-finger exercises on the prominences. As for the laminas, pedicles and plates, they are merely "pie"—they can digitally demonstrate each and every one of 'em. *I* never could (could you?) even if I received real money for doing it. They do, however, and thus definitely demonstrate their infinite superiority. Talk to a real Davenport D. C. about the endocrine glands, the lymphatic system, Hesselbach's triangle, the *caput gallinaginis* or even the *tunica albuginea,* and he will tell you that, as none of them pass through the windows of the spine or are likely to get pinched. (should some vertebral foramen, through a subluxation, become less of a foramen than it ought to be), they are irrelevant and immaterial to the real happiness and well-being of *homo sapiens.* Ask him if the *pars prostatica* is found in the female subject and what disorders it is subject to, and he will undoubtedly inform you that he doesn't know and, furthermore, doesn't care a tinker's dam—whatever *that* is.

Why should he? He has all the information he needs, while you have your attic full of all sorts of useless furniture you can't apply daily or "cash in" on. Bacteria? Such trivial things! They *are* minute. Body chemistry? Bosh! How can you study that in the living human and of what avail are laboratory findings when they can't be proven as being exactly duplicated *in vivo?* Blood counts, urine, tissue and sputum examinations, blood pressure tests, nitrogen output and all the

hundred and one idiotic things we are guilty of doing or trying to ascertain—sometimes on very slight provocation—the Developed D. C. will refuse to discuss as entirely worthless and beneath his consideration, thereby again proving, beyond any question, his practical proficiency and preeminent priority, as it were.

The Spine's the Thing

Now, anyhow, we have certainly been convinced that the SPINE is the "hub of the body" and, as the head rotates on its axle (as one D. C. expressed it) at one end and the *cauda equina* (a foolish Latin term for horse's tail) swings at the other, why bother with such distinctly minor matters? Just get into the pay (*not* "hay," please) wagon and *thrust* out Disease. And, moreover, let people know you are doing business. Tell them so and, moreover, tell them what you can do. Trust implicitly to the Thrust—*but,* hang up the sign in your office, "NO TRUST: WE THRUST FOR CASH ONLY." Be honest with yourself—and as honest as you *can* be with other people. Why give paltry pills when you can press protuberances? Why talk about bacteria when you can bend backs? Why work like a Jamaica nigger for a dozen people each day and receive twenty-five dollars, when (see literature) "you can 'adjust' seventy-five patients per day at $1.00 (they usually get more) per adjustment?"

Evidently, *some* adjustment (at least a dollar's worth) is needed by nearly every spine in the community and, in order to keep up the income, a lot of them should be adjusted quite frequently. On Monday, let us say, Smith's axle can be rotated; Thursday, one of his lopsided dorsal lamina can be lambasted, and Sunday it would be a good idea to correct the coccygeal curve a centimeter or two. Naturally, these repairs will only last for a little while and then he'll require all those parts replaced again—if not a complete overhauling of the cervical vertebræ. There still remain the lumbar. They (the people) "get it" in just that way in the garages (especially with Lizzies); so, these frequent adjustments and replacements of their own personal transmissions become quite to be expected and rather interesting events.

Of course, it might strain *some* people's credulity to have their baldness treated by an adjustment in the region of the Horse's tail (*cauda equina,* professionally speaking) but *that* is where, at one time or another, the longest hair is supposed to have grown; why then should not the delicate sensitive neurones in this locality, if sufficiently stimulated, convey to the equally sensitive nerves of the scalp the suggestion "Grow hair, darn you! so they'll stop thrusting at *me* every day or two?" And, given such suggestion, why shouldn't the fool follicles get busy and produce new locks?

Why, indeed? Can you advance any really cogent reason why the thing shouldn't work? If you are doubtful, study Chiropractic and acquire real knowledge. Shake off the trammels of conservatism and ADVERTISE:

"HAIR I'LL RESTORE, WHERE HAIR HAS GROWN BEFORE"

You can move after six months if the neurones in your particular locality prove particularly recalcitrant.

Claim Big Things

A little thing like failure along one line (hair trouble) should not—must not—faze you, for the field is wide and the demand for adjusters great. Indeed (see literature from the "Mother School" again) "the possibilities are beyond comprehension." "We have authentic reports from our graduates (the addresses of whom we will gladly furnish) who are earning from $300 to $1000 per month and are obtaining results that in any age but this would be considered nothing short of miraculous." They would! Indeed they *are,* even today. This and very, very much more of a most convincing kind is from a dear little pamphlet entitled "OPPORTUNITY: A WAY TO WEALTH, INDEPENDENCE AND FOR YOUR HAPPINESS." It comes from the press of the MOTHER SCHOOL and invites everyone who reads to embrace Chiropractic. "In Chiropractic," says the booklet, "the practice is waiting for the practician; the demand for qualified Chiropractors is far greater than the supply. YOUR OPPORTUNITY IS STARING YOU IN THE FACE NOW. WILL YOU GRASP IT?"

Then the reader is assured that "such diseases as Rheumatism, Paralysis, Indigestion, Heart Disease, Consumption, Bowel Troubles, Insanity and a thousand other diseased conditions too numerous to mention must cease when Chiropractic is applied." The terms for tuition are moderate (very) and, as "you cannot put a money value on the wealth of knowledge we place before you" and "the instruction in palpating and adjusting so necessary to a Chiropractic education" (no one could be heartless enough to dispute that) "is so thoroughly taught that in twelve months' time the student is graduated an expert Chiropractic adjuster," who wouldn't scamper Iowaward to matriculate? And, though this par-

ticular announcement is a trifle *passé* now, just about the same—but much more effective—propaganda is under way with a view to securing for "the MOTHER SCHOOL" matriculates who in a very short time will be transformed from Blacksmiths, Bakers, Peddlers, near-mechanics, etc., into properly accredited D. C.'s—perfectly prepared to "grasp the opportunity" to adjust the Spines of the American people at one dollar and *up* per adjustment.

The Doctor's Work

After somewhat carefully considering the whole subject, I have come to the conclusion that, if the said American people want to have their atlas, axis and coccyx (together with the intervening vertebræ—"peculiar" and otherwise—pulled and pushed, why, let 'em—it's their constitutional right. But, why "let George do it"? Why not impress upon these crippled Spine bearers that even the *average* M. D. has studied the Spine and the *nervi spinales* quite as closely as the D. C. and that he also knows something at least about a whole lot of other things connected with the body and its vital processes which the D. C. never even dreamed of? Adjusting the tappets of an engine won't correct ignition faults and I don't believe that any timing trouble was ever corrected by adjusting the rear pinion. With faulty carburetion, all the monkeying with generators, batteries and spark plugs "in the world" will prove of no use whatever and the most perfect motor and running gear will refuse to develop any "pep" if the gas isn't properly proportioned with air and sprayed into the intake manifold regularly. The mechanic who has been taught how to fix up a Lizzie (some of them "fix" her all right!) will be utterly at a loss as to how to take off a disc wheel, and the "innards" of an up-to-the-minute eight or twin-six would look to him like the main plant of a Public Utilities Station! So, surely then, must the infinitely more complicated and delicate mechanism of the human body be a sealed book to him who has only for a short time studied a *part* of it—even though it be that undoubted essential, the SPINE.

THEREFORE, IF THE CHIROPRACTOR KNOWS WHAT HE IS DOING AT ALL, THE M. D. MUST KNOW A GREAT DEAL MORE AND BE ABLE TO EXTEND MUCH BETTER SERVICE IN THAT PARTICULAR FIELD. Take the D. C. out of his limited territory, and he's only fit to hold things for the Doctor while he works. No one but a born fool is going to ask the Chiropractor to deliver women, stop hemorrhages, cure specific urethritis, lues or whooping cough and, if the baby gets a bean in its nose, if father contracts the "flu", or Grandpa finds himself "unable to void," it is the Doctor who has to do things, even as he has to scamper (whistling cheerily) from place to place in all weathers and in the dead of night to assuage all the thousand and one ills which somehow don't seem to disappear even in the most efficiently Chiro'd neighborhoods. Evidently, then, it is up to the Doctor to be still ready and willing to serve his fellow men and, if some of them insist that their spines be "adjusted," why not administer the "thrust" in the most approved way and then—for your soul's sake—begin to gently educate minds which need even more attention.

Don't "with stern face and tight-closed lips" ride behind the procession reflecting, as you go, on the folly of the human race; but "get into high," sound your Klaxon and demonstrate your all-round superiority to the tin cans which make so much racket and perform so horribly! "Henrys," of course, we shall (like the mentally defective) have with us always, but you will observe that most people would—with experience—rather ride in a real car!

The great point, of course, is, to enable the blind or myopic to distinguish the can from the car. Here the HORN counts materially and, in case of doubt, sound it! Then, as occasion offers, demonstrate that, whatever a Lizzie can do, you can do much better—to say nothing about things it (or "he" or "she") can't do at all.

Of course, if a Chiropractor can in any one day palpate some seventy-five human spines (more have been claimed) and locate that number of even minor displacements or maladjustments causing impingement upon nerve-trunks or blood vessels, he must be regarded not as a "can" but distinctly as a "twin six" most perfectly tuned up and, if, in addition to this, he can *correct* that number of abnormalities, he is a Liberty engine, a "caterpillar" and a Rolls-Royce-Duesenberg-Locomobile, functioning as a unit! No ordinary Doctor of Medicine—or even two extraordinary ones—could hope to compete with *him*. Before I'd go over that number of human vertebral columns and decide that I had found something to correct, and then and there correct it for One Dollar per, I'd peddle pin-cushions at a B. P. O. E. Smoker! I might have to live on the smoke, but I wouldn't be full of "gas" all the time! That is distinctly bad for an M. D. Some people, however, thrive on it.

I have refrained from saying a number of

things that I would like to say, partly because I have no desire to use any but perfectly polite language and, further, because I haven't room to express myself here—it would take a volume. "But I *will* just venture to quote that beautiful and soul-stirring soliloquy of William Jennings Bryan—or was it Byron?—"There's a sucker born every minute and someone to skin him." It relieves my pent-up spirit to dwell on this fascinating fact, even though it has nothing to do with the main subject under consideration. I seem to suffer from these mental subluxations and must get adjusted. Therefore, the Sawdust Trail for me and a more careful consideration of the vertebral region. Your company is requested and you are perfectly welcome to assume the Korporate Kote-of-Arms—or, might one say, *Hands?* The motto may be changed to suit one's individual fancy. "From bones, 'Bones'" would be appropriate or: "We reduce anything —even your pile."

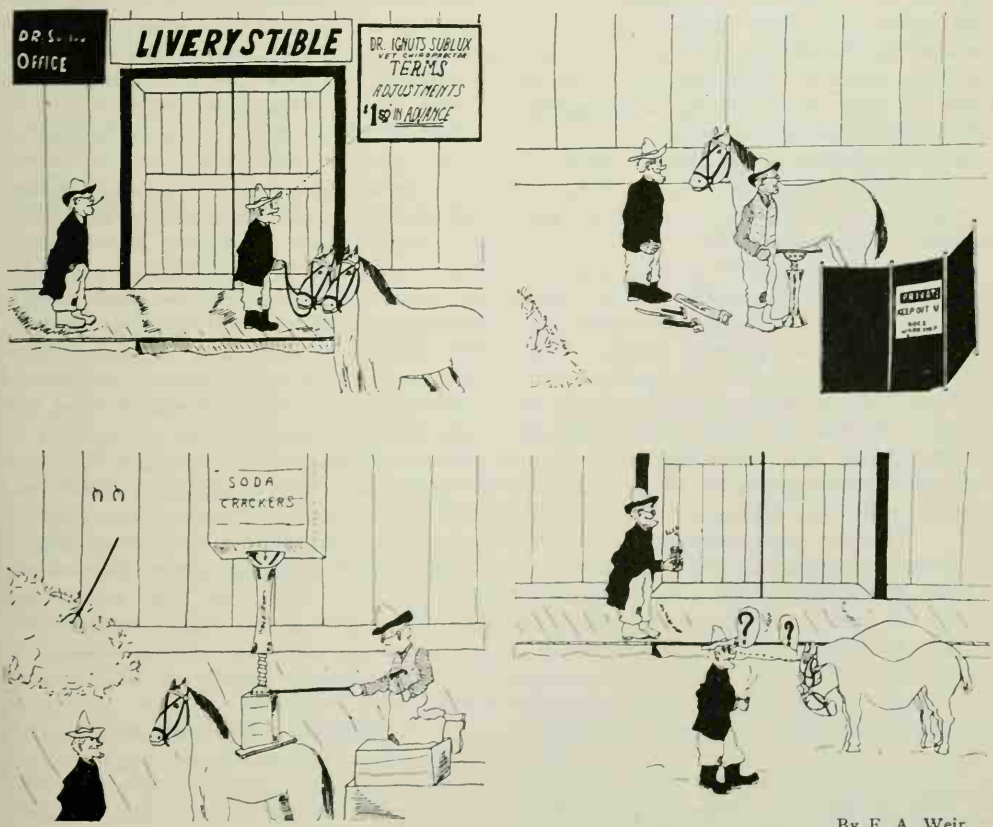
Cauda Equina

By the way, I wonder where the originator of Chiropractic secured his anatomical facts—such as he had? Did he, or any of his successors, develop anything *new*—discover a single nerve, blood-vessel, bone or foramen, unknown to or uncharted by the regular profession? Did he make any extensive dissections or enjoy a wide and varied clinical experience? Has he, or, for that matter, the whole tribe of Chiropractors, given us one *new* Truth? If so, what is it? We are earnestly seeking information.

Coccyx

Don't tell us about "Holds," Thrusts," and contracted foramina. Please spare us *that.* Anything else—especially something touching upon the treatment of Pott's, Insanity, Phthisis or Renal Tuberculosis will be received with gratitude.

Here endeth the tail.



By F. A. Weir.

Adjusted, by Gosh! But not matched-

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from March Issue, p. 219*]

Calcium lacto-phosphate

While this salt is not an essentially chemical product, it is constant in its construction, it is a positive reconstructive, especially useful to the pediatrist; indicated in rachitis, pretuberculous conditions and scrofulous swellings, anemia, and, in fact, in any state requiring a bone and tissue builder.

Dosage:—1 grain, three or four times daily.

Calcium sulphide

There is a marked difference in the samples of this salt as marketed. The Calx sulphurata of the U. S. P. contains 60 percent of the pure salt and is variable in its keeping qualities. The writer has found calcium sulphide, as prepared by The Abbott Laboratories, as being much superior to any other that has come under his observation, both in its therapeutic effects and its keeping properties.

Calcium sulphide is the internal antiseptic *per se.* The sulphureted hydrogen liberated is readily absorbed, neutralizes the toxins and increases phagocytosis.

Therapeutics:—Indicated in all infections and pustular conditions, anthrax, boils, acne, ulcers and abscesses, pyemia and septicemia.*

Prophylactic in all eruptive fevers as well as modifying their course when established.

Dosage:—1/6 to 1 grain should be given to complete saturation, in order to obtain its full benefit. One or more every half to one hour until the breath and secretions give off the odor of sulphureted hydrogen.

Calcium phenolsulphonate

(Calcium sulphocarbolate. Abbott)

While the sulphocarbolates have been and are praised by some and decried by others, as to their antiseptic powers exerted in the intestines, they have been clinically proven to be of great value in this particular direction. Notwithstanding the fact that they are soluble in the gastric secretions, they do exert a marked effect in destroying abnormal odors of the stools. We argue from this fact, *a priori,* that they exert antiseptic power.

Therapeutics:—Useful in combination with iron and zinc sulphocarbolate in all fevers, essential and symptomatic, in all cases of fermentative dyspepsias where the stools are offensive in odor. Also in acid eructations.

Dosage:—1/6 to 5 grains: In using this or any of the other sulphocarbolates, either alone or in combination, it is necessary, in order to obtain the best results, that the bowels be well cleaned out with calomel in small doses, followed by salines. Then the salt may be administered, from 2½ to 15 grains every two to four hours, to effect. Children, gr. 1/6 to 1, four to six times daily.

Calomel

(Subchloride of Mercury or Mercurous Chloride)

The physiological effects of calomel are too well known to need recapitulation here, but the massive doses of bygone days are no longer considered by the physician who has the interests of his patient in mind. And, thus we class all who are in active practice. The writer, however, does emphasize the greater value of the minimum dose frequently repeated over the larger dose as advised by many practitioners.

While the dosage, as prepared by the pharmaceutical manufacturers, is given as from 1/10 grain to 1 grain, it is the experience of the writer that the full cholagog effect will be attained if 1/10 grain be administered every half hour until three doses have been taken, accompanying the last dose with 1/6 grain of podophyllin. As the psychology of the drug should be considered, the aromatic tablet should be chosen.

Camphor monobromated

Physiological action:—It exercises a sedative action upon the encephalon and the spinal cord or both. It reduces pulse, respiration and temperature; diminishes the tactile sense of

**Note:* As sulphureted hydrogen is particularly obnoxious to mosquitoes, calcium sulphide offers to the hunter or fisherman a protection against their annoyance and bite, if taken to saturation as above directed.

the pharyngolaryngeal mucosa and reduces spasm.

Therapeutics:—While it has been recommended in chorea, hysteria, spasmodic and convulsive cough, spermatorrhea, nymphomania, etc., it exercises a selective action upon the sexual organs, especially of men. It finds its legitimate employment against satyriasis and priapism, against excessive irritability and excitability of the sexual organs of man or woman. Good results have been obtained in nocturnal pollutions. Here, Burggraeve advises the addition of atropine. It has proved of value in children with whooping cough.

Dosage:—1/6 to 1 grain. For children, the smaller dose three or four times daily; for adults, 1 to 2 grains every two or three hours as required.

Cannaboid

(Concentration from Cannabis Indica)

Physiological effects:—Powerful hypnotic, anodyne and antispasmodic. Active stimulant in removing langor and anxiety. The primary effect of a large dose is decidedly stimulant, producing increased arterial tension, and great exhilaration of spirits. The patient becomes talkative, sings, asks for food and declares to be in the best of health. Sometimes attended with hallucinations of an outrageous character.

Therapeutics:—Useful in nervous and spasmodic diseases, sleeplessness attendant upon chorea, sciatica, trifacial neuralgia and migraine.

Dosage:—1/6 grain: one to four every two hours, repeated as required.

Cantharidine

(The Anhydride of Cantharidic Acid)

Physiological effects:—Increased exudation of serum from the capillaries. Doses that are toxic but not lethal cause gastric burning and pain, great thirst. The salivary glands swell and discharge freely, the pulse slows, diuresis and diaphoresis appear, with strangury, tenesmus and diarrhea. The symptoms disappear in twenty-four hours and leave no trace. The drug does not excite sexual activity, while it does irritate the sexual organs without producing desire.

Therapeutics:—In acute nephritis, when the acute symptoms pass and a little albumin and blood are still to be found in the urine, it is very useful in doses of 1/6000 gr., every three hours (Brunton-Waugh). In lupus, cantharidine, injected hypodermically, cured completely incipient cases (Liebreich-Waugh). The larger uses of this drug are more fully described under Sodium cantharidate.

Dosage:—1/5000 grain every one or two hours, cautiously.

Capsicin

(Oleoresin from Capsicum Fastigiatum)

Physiological effects:—Is a stimulant to the solar plexus, rousing the vitality and awakening the vital resistance to the onslaught of disease. In small doses, it is followed by a sense of warmth in the stomach, the secretion of gastric juice is stimulated and all the digestive functions are aroused. In very large doses, capsicin produces vomiting and purging, pain in the stomach and bowels, acute gastritis and intoxication, with feebleness of the nervous powers.

Therapeutics:—When chilled from riding in a cold atmosphere, a bowl of hot capsicum tea will arouse vital resistance, send the blood equally through the vessels and prevent a threatened congestion, as well as any other stimulant and better than an alcoholic beverage.

In catarrh of the pharynx, the use of capsicin in solution, as a gargle, is of value in arousing the weakened tissues to a healthier action. It has also proved efficacious in relieving hoarseness.

In atonic dyspepsia and chronic catarrh, capsicin in small doses is a valuable stimulant and aids digestion while other measures are used in restoring strength.

In delirium tremens, capsicum, in doses of 20 to 60 grains, will do more to secure sleep and restore the nervous system to its balance than any of the direct hypnotics, singly or combined. Dr. Waugh said of it: "When a man is crazy for drink, insisting on repeated drams till drunk, hardly waiting till one is down till he is calling for another, give a teaspoonful of capsicum in an ounce of whisky. It will divert the mind to a different channel—mainly that of swallowing ice—and instantly stops the calls for alcohol. From this huge dose, we have never known harm; but, of course, it has only been called for in inebriates, whose stomachs were well prepared."

In the algid forms of malaria, congestive chills, a full dose of capsicin will do more than any other remedy to arouse reaction. It will require but half the dose of quinine, or less, to do the work when capsicin is added.

In passive diarrheas, and when a general stimulant is needed, capsicin, carefully given, is very beneficial.

Locally, capsicin has been recommended as a gargle in scarlet fever and in chronic ton-

sillitis; as an application to sluggish ulcers; for chronic ophthalmia, where the use of it is as apt as that of the abrus precatorius and certainly not so dangerous; for corneal ulcers, where the vitality of the tissues must be sustained at any cost, to abort acute tonsillitis, for the hoarseness of atony of the vocal apparatus; for relaxed uvula; chilblains; toothache; cold feet; in fact, in any case where it is advisable to stimulate the vitality or to increase the action of other drugs—and applying to local or internal use equally.

Dosage:—1/128 grain, one as indicated and repeated until effect gives better results than the larger dose of, say, 1/20 grain given at one time.

Carbenzol (Abbott)

A carefully rectified distillate from shale.

Physiological action:—A powerful antiseptic and bactericide.

Therapeutics:—Valuable in all parasitic dermatoses, eczema, scabies, acne, ringworm, barbers' itch (tenia circinata), and indolent leg ulcers. Also a valuable dressing for burns occasioned by scalding water.

Dosage:—Locally, as required.

Carbo vegetalis

Charcoal from salix frangilis.

Therapeutics:—Useful in hyperacidity and in some forms of indigestion with acid eructations, fetid breath, etc.

Dosage:—5 grains, one or two crushed in the mouth a short time after eating.

Cephaeline hydrochloride

Alkaloid from cephaleis ipecacuanha.

Physiological effects:—1/12 grain produces nausea, slight dizziness, salivation and retching, but not actual vomiting; at the same time, arterial pressure is somewhat diminished. A dose of 1/6 grain produces similar effects, followed in an hour by vomiting and increased peristalsis, a soft stool resulting.

Therapeutics:—But little used, as other remedies are more prompt in the indications.

Dosage:—1/24 grain with hot water, followed by copious draughts of warm water as soon as vomiting occurs.

Cerium oxalate

A white, odorless and tasteless salt; insoluble in water or alcohol.

Physiological effects:—Large doses cause dryness of the mouth; it causes heart depression, vomiting and purging, and congestion of the kidneys when administered intravenously. Acts as a sedative to the gastric mucosa.

Therapeutics:—Useful in irritable dyspepsia attended with gastrodynia, pyrosis and chronic vomiting. Vomiting of pregnancy, nausea resulting from uterine irritation, cough of phthisis, chronic bronchitis and morning cough are beneficially treated with this drug.

Dosage:—1/6 to 1 grain, the smaller dose every ten minutes to effect; in the nausea of pregnancy, 1 to 5 grains half an hour before meals.

Chelidonine sulphate

Salt of alkaloid from chelidonium majus.

Physiological effects:—Non-toxic; narcotic, resembling morphine, but less stimulating; slightly stimulating to the spinal cord. Heart muscle is depressed, pulse weak and slow, respiration stimulated.

Therapeutics:—Recommended in gastric ulcer, cancer and enteralgia. In infantile practice, chelidonine is preferred to opium because of its innocuity. It possesses calmative and hypnotic properties, but is less narcotic than are other alkaloids from plants of the same family.

Dosage:—1/64 grain every half hour until effect.

Chromium sulphate

While this salt has had considerable clinical experimentation with favorable results in the cases treated, but little has been learned of its physiological effects, except: that it has been demonstrated that a toxic dose in the human subject would be from 900 to 1500 grains. Some irritation of the digestive apparatus would be caused by smaller doses, but the daily maximum dose of 50 grains would be well within the limits of safety.

Therapeutics:—In prostatic hypertrophy, it has never failed to give relief, and in most cases has effected a cure.

Chromium sulphate has proved successful in mammary cirrhosis, castration, menopause, functional impotency in men, chronic alcoholism, nervous vomiting and that of pregnancy, neurasthenia, locomotor ataxia, exophthalmic goiter and in the migraines. In these several diseases, it is worthy of the consideration of every practitioner and the writer cannot too strongly recommend it in locomotor ataxia and in prostatic hypertrophy; while, in uterine fibroids, in combination with calcium iodized (Calcidin) its action is most pronounced in promoting the absorption of the growth.

Dosage:—4 grains. It is well to commence treatment with a dose of 2 grains, increasing, according to tolerance, up to 8 grains after each meal and at bedtime. Should constipation supervene, a mild cathartic should be added and, if there is gastric irritation, menthol in small doses may be used as a

corrective.

Sharp elimination especially with the salines is an absolute necessity.

[*To be Continued.*]

DOCTOR BRYCE'S TALK

Advice Regarding Abortion

I am induced to take up this delicate subject through a question propounded seriously to me by a young physician whose mind had not been fully satisfied as to his duty under a most distressing case. He asked, "What Advice Shall We Give to The Woman Seeking Us for The Production of an Abortion?" Like almost every physician would say, I told him that there was but one answer to give every woman who sought the services of a physician for this purpose, and that was: Under no conditions to entertain the idea even for a single moment. I have never observed any other rule but this; and, yet, I have met a few occasional physicians who allowed their sympathy to get the best of their judgment in doing an act condemned by both the moral and legal codes. I have no harsh criticism to make of such unfortunate men except to feel sorry for them, and advise them in future to cut short all interviews before they become sympathetic.

Now, for the sake of others who may not be fully convinced as to the importance of firmly and promptly refusing to listen to any appeal from these unfortunate women, I will present a few cases that may show the danger of being mixed up with them in any way whatever. Many years ago, I knew a physician of unusual ability and splendid attainments who had the reputation of being an abortionist. I knew him well and was very fond of him, and these reports about him worried me to such an extent that I actually asked him to tell me as a friend if there was any foundation for them. To my astonishment, he said: "Doctor, I have no conscientious scruples against producing an abortion for any unmarried girl who has been deceived and taken advantage of by a man she loved and expected to marry, provided she applies to me before the child is viable."

"Wouldn't you produce an abortion to save life?" he asked me.

"Certainly, where it is necessary to save the life of the mother."

"Don't you think that the disgrace and loss of caste and the finger of scorn are worse than death for a mother and for the child who lives to keep her shame alive?" he asked.

"I am not your judge, Doctor," I told him. "But I would never do it again."

Three years after this conversation, I was sent for to see this physician and found him sick and under arrest for producing criminal abortion, with his house guarded until he could appear in court. After many continuances, the case was finally set for trial; but, fortunately, the woman's husband, knowing that I was a friend of the accused physician, approached me with a proposition to buy off his wife's testimony for a sufficient sum of money. I told him that I would have a conference with the doctor, and asked him to meet me with his wife at my office by ten o'clock the next morning. He appeared on time and stated that his wife's testimony would send the accused to the pen, and that, unless the doctor "came across" with one thousand dollars, he would see that she furnished the evidence.

"How much did you pay the doctor for aborting your wife?"

"He didn't charge her anything."

"Why did he do it?"

"Because she told him, if she brought another child in the world, she could not take care of it, and she would just be bringing suffering upon them all."

"This looks like blackmail to me," I told him.

"You can't prove it," he said.

I just turned back my portieres and let him see, sitting within eight feet of him, Dr. S., a friend, and two other men, who said they would recognize him and his wife in court and would swear to every word he had uttered.

I understand that he and his wife left the state that night, and, when the case was called in court, these witnesses were not to be found and the case was dropped.

The doctor did not live very long after this trying ordeal. I attended him in his last illness and was asked by the family if I thought I could get a few medical men to be his pallbearers. It was a delicate question, but I never deserted a friend because he sinned or fell through human weakness. I asked certain physicians to join me in giving him proper burial. They came and solemnly deposited the casket in the grave, and, while I stood there and heard the earth being thrown upon the coffin, I thought of Christ's words when he asked, "Woman, where are those thine accusers? Hath no man condemned thee?" She said, "No man, Lord," and Jesus said

unto her, "Neither do I condemn thee: Go and sin no more." And then I thought of the many opportunities my friend had utilized to save those that would have been lost and to give them a chance to "go and sin no more."

To show the far reaching blight of this kind of criminal practice: Just because I was friendly to this erring brother, there were persons who thought that my friendship for this physician meant that I approved of his practices, and for more than a year, occasionally, parties unknown to me applied to me for the performance of this operation, with the belief that I had my price.

So I say as I have always said: There is no middle ground, no half-way refusal, no temporizing or considering the question, but a quick clear cut No. Thus save yourself from trouble, danger, and loss of respect of those who would offer you such a compromising proposal.

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Long years ago, there came to my office a mere child in plain attire and with trembling lips told me her trouble. She was the youngest of three sisters and the child of poor country people, whose good name was all they had. She pleaded with me to save her from the consequences of her misstep and the sorrow and disgrace she would bring upon her parents and sisters. She had been over-persuaded by a man she loved and who had promised to marry her. When he found she was in trouble, he fled to parts unknown. She was game. When I told her that I could do nothing for her; but that she should go back to her parents and tell them all and let things take their course, she said: "I love my parents and sisters too well to ever disgrace them —please promise me to keep my secret whatever may happen." Bidding me goodbye, she left my office. Two months afterwards, she was found dead in a Negro hut in Chesterfield county; not the result of any criminal attempt, however, but from grief and despair —a willing sacrifice of her own life for the sake of those she loved.

I felt about this case and all others like it, like old Dr. MacGill did when he asked me to do a craniotomy for him. The dear old soul was a devout Catholic and, after wearing himself out trying to deliver an impossible head, he said to me, "Dr. Bryce, my religion forbids my taking the life of that child even to save its mother's life, but I would certainly be glad to see *you* do it."

My observation has been that most physicians feel that they have done their duty toward these unfortunates when they persuade them to "let nature take its course." But, in nearly all of these cases, Nature does not take its course, and these poor little unwanted ones are worse off than if they had never been born, for they are denied the pabulum Nature provides for them and are given away or placed in the hands of others "to be cared for." Most of these deserted children are literally starved to death or die of some more acute condition, due to dietetic errors, within six months from birth. Indeed, many of them do not live a month.

If it is a physician's duty to plead for the life of the unborn child, as it certainly is, then it is even a greater duty to mother and child to give them both a chance to make good in this life.

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For the benefit of some impecunious young doctor, to whom money may be a temptation, I shall relate an occurrence in my own experience when I was a young man and under great financial strain: I was making desperate efforts to keep soul and body together and had actually gotten so much behind in the rent of my office, that my landlord had threatened to levy upon my effects and put me out. Owing to the sudden failure of a bank, I lost the three or four hundred dollars that I had saved for emergencies, and I was down and out good and hard. While sitting one morning contemplating my chances for holding the fort much longer, I noticed a handsome carriage with a pair of beautiful horses driven by a liveried coachman draw up before my office. Two ladies got out and, walking leisurely to my door, rang the bell. One was a middle-aged woman and the other was apparently a daughter. After inquiring if I was the doctor, the elderly lady said they desired to consult me privately. I ushered them into my consulting room and informed her that we were entirely alone. I could see from their costly apparel and unobtrusive jewelry, along with their well chosen language, that they were educated and wealthy people, but was surprised that she had omitted the courtesy of introducing herself and daughter. After seating themselves, she, without saying anything, deliberately drew out and deposited on my table five one-hundred dollar bills and, looking me squarely in the eyes said, in a stern, hard, cool and calculating voice: "My daughter is in trouble—I want you to relieve her." "This is simply a retaining fee, you can send your bill for any fee you like when it

is through." Continuing, she said: "I am in position, financially and influentially to protect you fully from any prosecution or punishment should any unforseen accident occur, and I will put you on your feet and make you a success."

I was so amazed at this cold-blooded proposition that, for a minute or two, I made no reply to her. A man can think a deal in two minutes. He can run over his whole past life in that time, and I glimpsed the picture that had been drawn for my future. I handed her back her money and told her that there was a better way out of the trouble than trying to induce struggling young doctors to commit unlawful acts. I advised her to take her daughter to some large city where they could live unknown, and carry her child to term, and when it was born to spare no expense to keep it alive and give it a chance in life. As she arose to leave, I noticed tears in her eyes, and placing her hands on my shoulders, she said, "My son, you have been raised by a good mother. I shall do as you say, and may God ever deliver us all from temptation." I surely needed that fee, but I am glad to say its offer was no temptation to me.

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The medical profession is confronted with no more serious problem than that of the unwanted child and its protection after birth. I recall a case that shows to what extent of neglect and crime women will go to hide their shame. I had been practicing medicine for five or six years when, one evening, an elderly man and a younger one asked me to listen to a proposition from them: They informed me that there was a little baby in the house of a colored woman, giving me name and street number, that they desired me to see and attend as long as it was sick. I understood from the younger man that he had married the daughter of the gentleman who came with him, and that the little sick one was his child. They had been indiscreet and it was born too soon after their marriage. They concealed its birth as well as they could and sent it to this Negro woman to be cared for. The young wife pretended a few days' indisposition and apparently went on to full term to tally with the usual expectations. The plan was, to go through a pretended confinement at the right time and for me to attend her. An old midwife was to supply a newborn baby from an expected source.

I found her sick baby dying from marasmus while she could have easily furnished it her life-sustaining milk. In due time, unwilling mother No. 2 gave birth and the midwife brought the child to mother No. 1, who found it convenient to be confined at midnight, and while her own was dying of starvation in a Negro's hut and did die within a few weeks thereafter. This foster-child lived and grew to be a beautiful young woman and married a splendid young man, and I trust she never learned the circumstances surrounding her birth.

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It is an awful thought that a young woman must go through life with the brand of unchastity upon her brow and be spurned as unclean; but, to alter this decree, would shake the very foundations of society and moral safety. It is likewise a terrible hardship for a child to be started on its career in life without a name. Still, what can be done? Let the moralists, philanthropists and Christian people find some way of saving these unfortunates.

C. A. Bryce.

516 N. 10th St.,
Richmond, Va.

PITUITARY SUBSTANCE ANTAGONISTIC TO ANESTHETIC INTOXICATION

A postgraduate course in experimental pharmacology was held in the interest of the National Anesthesia Research Society, at the University of Cincinnati College of Medicine, for one week, beginning January 8, 1923. The society, which is one of national scope, is primarily interested in the practical application

of general and local anesthesia to the relief of human suffering. The course was made possible through the leadership of Dr. Dennis E. Jackson, Professor of Pharmacology of the College of Medicine, who has devoted a great amount of time to this important phase

of medicine and who was requested to give a course of instruction to members of the society, following the reading of a paper before a joint meeting of the National Anesthesia Research Society, the Ohio Dental Society and the New York Society of Anesthesia, held in Columbus, last October.

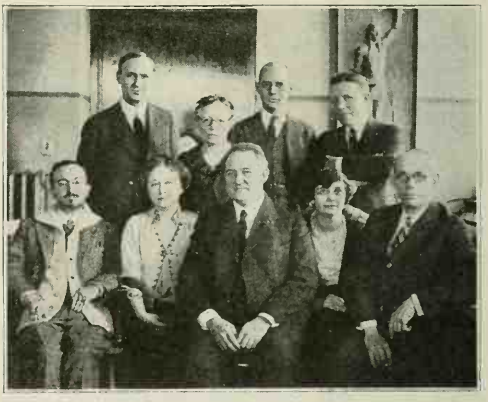
The course consisted of lectures, demonstrations and experimental investigations, and so enthusiastic were the physicians in attendance that daily conferences were held every evening at the Hotel Gibson for a discussion following the day's program. Doctor Jackson personally delivered two lectures, the meeting also being addressed by Drs. A. P. Mathews, Martin H. Fischer, Alfred Friedlander, J. W. Grieve, Mr. J. V. Lawrence and Mr. John A. Higgins.

Mr. John A. Higgins, of The Abbott Laboratories, gave a talk on the evening of the first daily conference. Special demonstrations relative to efficiency, toxicity, and methods of combating toxic doses of the local anesthetics were made by him.

An important factor which Mr. Higgins demonstrated was the use of pituitary substance in combating ultralethal doses of the new "Butyn" local anesthetic.* Small amounts of pituitary (Abbott's pituitary was used in the demonstrations) given intravenously showed a very marked antagonistic reaction. Another factor brought out by Mr. Higgins was that pituitary of over two and one-half years of age was just as effective as fresh pituitary solutions in combating ultralethal doses of "Butyn." Other points of interest in the use of "Butyn" were also brought out by Mr. Higgins, who was solicited to show the entire demonstration of "Butyn" again during the Chicago Congress, to be held next fall.

Some of the out-of-town physicians in attendance and some of those whose pictures are herewith shown, are Drs. B. H. Harms, Omaha, Nebraska; W. I. Jones, Columbus, Ohio; E. I. McKesson, Toledo, Ohio; R. A. Rice, Columbus, Ohio; Frances Haines, Chicago, Illinois; F. H. McMechan, Avon Lake, Ohio; A. E. Peebles, Wilmington, Ohio; D. O. Barrett, El Paso, Texas; L. Shuey, Toledo, Ohio; W. N. Thompson, Sullivan, Indiana; B. Morgan, Chicago Illinois; J. B. Barker, Piqua, Ohio; M. Taylor, Danville, Illinois; A. W. Carrill, Norwood, Ohio; W. J. Walker, Greensburg, Pennsylvania; T. T. Church, Salem, Ohio; Claudia Potter, Temple, Texas; L. R. Allen, Colorado Springs, Colorado; C. C. McLean, Dayton, Ohio.

Dr. F. H. McMechan is chairman of the National Anesthesia Research Society; Dr. E. I. McKesson, president of the society. Other prominent members of the society are Dr. Yandell Henderson, Professor of Physiology, Yale; Dr. Theodore D. Casto, University of Pennsylvania Dental School; Dr. F. C. Mann, Professor of Experimental Surgery, Mayo Clinic, etc.



INSULIN TREATMENT OF DIABETES

The recent researches, which were initiated by Doctor Banting, of Toronto, and continued by his group of workers, bid fair to constitute one of the great discoveries in medicine.

About two years ago, Doctor Banting conceived the idea that, if the pathologic axiom was true that ligature of the pancreatic duct produces atrophy of the acinar tissue of the pancreas, while the Islands of Langerhans remain intact, this would produce a hormone

* A more detailed account on the use of pituitary substance as an antagonistic agent for toxic local anesthetic reaction is being compiled for a separate publication.

which, on being introduced into the system, would bring about relief of the diabetic symptoms. This, of course, providing the correctness of the theory that the pancreas, and particularly the Islands of Langerhans, were involved and at fault in producing an insufficient secretion to metabolize the carbohydrate intake into the system. His first experiments were made on dogs. He ligated the pancreatic duct of one and waited about ten weeks for the acinar tissue to atrophy, i. e., that portion of the gland which produces trypsin, a very poisonous and destructive agent which, if included in the material, would be exceedingly objectionable.

After the removal of the gland in the atrophied state, the next problem was to produce an extract of the insular tissue, which would be free from protein; the presence of protein (as is well known) being objectionable because of its property of producing anaphylactic reactions which might be very dangerous and even fatal.

It was found, after considerable experimentation, that alcohol, in percentages of up to 80 percent, would dissolve the active principle of the islets and that alcohol in percentages of between 80 and 90 precipitated the protein. This produced a substance that would be, in a measure, protein-free.

Banting next performed a total pancreatectomy on a dog, and then used the material (which he named **Insulin**) subcutaneously. This prolonged the life of the totally depancreatized dog for seventy days, at which time Banting was obliged to kill the dog because of the lack of insulin to continue the subcutaneous injection. This, in itself, was a remarkable experiment and immediately proved that insulin was a very valuable substance in serving to prolong life of this animal. Blood analysis showed that the blood sugar of this animal was reduced to normal, within a few hours after the injection, and the urine was rendered sugar free.

It might be well to note here that the life of a depancreatized dog, without the subcutaneous injection of insulin, is about eleven days, at the most.

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The next step after the success of experiments on animals was, naturally, to use it on cases of diabetes in humans. It was found that there was no effect after administration by mouth or rectum. Intravenously, it acted much more quickly than subcutaneously. The results in humans were exactly the same as in dogs; viz, a prompt fall in the blood sugar, the elimination of the glucose in the urine, and the freeing of the system of the acetone products.

The gravest cases that have been treated are those with almost a total diabetes in a comatose state. They were treated by such skilled physicians as Dr. Frederick Allen, at his institute at Morristown, Dr. Foster of Cornell University, and by other famous men in this field of medicine. Patients whose illness was considered hopeless and who were expected to surely die were temporarily rendered sugar and acetone free, both in the blood and the urine as well.

As will be readily perceived, insulin is a very potent agent, and its dosage must be accurately determined in every case.

A new pathologic condition has been discovered and forcibly brought to the attention of the observers who use this extract, namely hypoglycemia. This condition of insufficient blood sugar is caused by an overdose of insulin. It was first observed by Banting in rabbits, while trying to determine the unit of dosage. He observed that, after an overdose, the animals suffered from the deficiency of blood sugar, first becoming hungry, then supersensitive, and finally developing mild convulsions and dying in a coma.

It was found that intravenous injections of glucose solutions relieved this condition and restored the animal to a normal state, proving that the condition was definitely one of hypoglycemia. A number of cases of hypoglycemia have occurred in human beings, after the use of insulin, and the symptoms were observed up to the state of coma. None of the patients died, because of the prompt use of glucose, intravenously, and of adrenalin, subcutaneously.

It is well to impress on all who contemplate using insulin that its use is not without danger, and that careless practice may produce dire results.

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The next problem that presented itself was the standardization of dose, and, while the result is not by any means absolute, it was determined by Banting that it was the best that could be found at this stage of development. Accordingly, he determined that an amount sufficient to kill a four-kilogram rabbit in four hours was the unit of dosage. At first, there was only one unit of insulin per Cc. This has been increased up to four units per Cc. of dose.

Since its manufacture after the above procedure would make the cost of its production

practically prohibitive from the standpoint of the average income, and because of the fact that one unit only could be obtained per pancreas, the Toronto group began a series of experimentations to find cheaper methods of production. It was known that fetal calves at about the fourth month of gestation had no development of the acinar tissue of their pancreas, and the insular tissue was well developed. The extract was made from these, and this proved to be as suitable as the extract of the atrophied pancreatic gland of the dog. The abbatoirs could supply a still greater quantity of these, and they were much cheaper than dogs at $3.00, and so an increased supply became available. This was still a very limited source of supply. The demand was great, and so the search was on for more suitable methods of production. At this date, it has been found that a 50% solution of alcohol and 2% hydrochloric acid will dissolve the insular material of the beef's pancreas and destroy the acinar material; consequently, a greatly increased supply of the material will shortly be available at a much decreased cost.

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The dose being the unit, the next question which naturally arises is, how much will any given case need? This matter has not been settled to date. The proper dosage is, enough units, given subcutaneously in periods of from one to four daily, that will render the blood sugar normal, remove the acetone products, and free the urine from glucose. This dose varies very greatly in different cases. From 1 to 100 or more units may be necessary daily to maintain an ideal, i. e., the normal blood chemistry. Its action is best (at this time) observed by being used subcutaneously. After injection, the action is rapid, reaching the high point after 4 to 6 hours and gradually declining for 4 to 6 hours, after which its effects are entirely exhausted.

This comparatively quick rate of absorption is one of the drawbacks in the treatment. The injection must be repeated every 6 to 24 hours for continuous effect, and is not by any means a permanent cure, as will be readily seen.

There are various factors which enter into a consideration of proper dosage. The amount of carbohydrate intake influences the amount of units to be used. Obviously, if there is tolerance of 50 Grams C.H. and an intake of 100 Grams, it would require more insulin to metabolize the extra carbohydrate than it would if less were ingested.

The presence of infection which depresses insular activity would naturally be a factor in increasing the dosage. The drug has now been used by three very capable specialists whose work I have had the good fortune to observe, and, when given in proper dosage, its action is little short of magical in the most severe cases, bringing all but the most moribund cases of coma to a safe state. A number of cases I have seen were in children who have had a severe diabetes of two and three years' duration; the results produced in these cases were marvelous.

By no means may the strict adherence to diet, in proper percentage of carbohydrates, protein and fats be neglected in the treatment of diabetes. This disease must be understood to be caused by a hormone deficiency if the patient is to receive the fullest benefit from consultation and advice. For years to come, the disease will not be better controlled except by the careful analysis of tolerance, blood sugar percentage, respiratory quotient and precise uranalysis, when properly interpreted to make possible correct conclusion, as to the capacity of the pancreatic function; from this laboratory information, a proper diet, both as to quality and quantity, must be prescribed for the patient.

Insulin has a real place in medicine, however, not only in cases neglected or improperly treated that go to the stage of acidosis and coma, but in that class of cases in which the carbohydrate and protein tolerance is so low that the number of calories must be reduced to a point that means chronic starvation. In these cases, with the use of insulin, the tolerance can be increased both as to quantity and quality, and these victims of chronic undernourishment can be brought to a point where the diet is sufficient in amount and quality to bring them to a state of nutrition compatible with comfort and allow them to perform duties which, without its use, would be impossible of accomplishment. In the discouraged and disgusted patient, who breaks all rules of treatment and goes on a carbohydrated jag (*sic!* a chance for something of pleasure in these Volstead days), a dose or two of insulin will remove quickly all ill effects of the debouch and rest a fatigued pancreas. In all probability, no harm will follow if this method of treatment is resorted to every time. Insulin will give all the mild or moderate diabetics a chance to eat their Christmas or Thanksgiving dinner from soup to nuts, and enjoy it without throwing them into an acidosis or even affecting their system. In surgical cases, the diabetic has a

better chance because insulin relieves the acidosis, etc., and practically settles this vexing problem.

This treatment definitely determines that the pancreas is the seat of the lesion which produces diabetes, and clears up the question as to the pathology.

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Too great credit can not be given to Doctor Banting. Trained as a surgeon, he brought a wonderfully keen, unprejudiced mind to action and followed up a remarkable idea with all the courage and concentration of a great scientist, evolving it successfully, with two years of constant work, into a practical, usable method for the treatment of this very prevalent condition. Like the greatest of all great medical scientists, and to the glory of this great profession of ours, he has given his discovery to the world at large without demanding a single cent of tribute in the shape of royalty.

For this noble work and gift to humanity, this Toronto physician's name will be placed among the great names in medicine, and humanity will revere, honor and respect his devotion to science.

J. B. Garlick.

Schenectady, N. Y.

A GOOD OPENING IN COLORADO

An old friend of mine in Colorado recently died, leaving a splendid practice in one of the best towns in the state. Very little money will be required to step into this. If any reader is interested in this opening, and will write me personally, I shall be glad to give him further information.

Alfred S. Burdick

4757 Ravenswood Ave.,
Chicago, Illinois.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Junior Pathological Technician

The receipt of applications will close on April 24. The examination is to fill a vacancy in the Army Medical Museum, at Washington, D. C., at an entrance salary of $1,800 a year, plus the increase of $20 a month granted by Congress.

The duties will consist of the dissection, preparation, preservation, description, and classification of pathological material and arrangement of this material for exhibit; also independent research work along these lines of study.

Competitors will not be required to report for examination at any place, but will be rated on the subjects of (1) education, training, and experience, and (2) pathological specimen, to be submitted with application.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

The U. S. Civil Service Commission announces open competitive examinations for:

Assistant in Child Hygiene, $1600 to $2400 a year.

Specialist in Child Hygiene, $2400 to $3600 a year.

Specialist in Child Hygiene (Psychiatry), $2400 to $3600 a year.

The receipt of applications for these positions will close on April 24. The examinations are to fill vacancies in the Children's Bureau, Department of Labor.

The increase of $20 a month granted by Congress is added to all salaries not exceeding $2500 a year.

The Commission also calls attention to the opportunities for appointment offered to persons who are qualified and who desire to enter the Government service at the new United States Veterans' Bureau Hospital for colored veterans, shortly to be opened at Tuskegee, Alabama, and erected on ground donated for the purpose by Tuskegee Normal and Industrial Institute.

Graduate nurses; salaries $1680 to $2500 a year. (Chief, Assistant Chief, Head and Staff positions.)

Reconstruction aides; salaries $1710 to $2000 a year. (In Occupational therapy and Physiotherapy.)

Reconstruction assistants; salaries $1400 to $1600 a year. (In Occupational therapy and Physiotherapy.)

Dietitians; salaries $1680 to $2500 a year. (Chief and Staff positions.)

The following-named positions in the hospital will be filled from registers established by the District Secretary, and persons who wish to apply for them should send for full information and application blanks, addressing: The Secretary, Fifth U. S. Civil Service District, Post Office, Atlanta, Ga.

Physicians. (General medicine and surgery, salaries up to $3250 a year. Specialists, up to $5500 a year.)

Dentists; salaries $2400 to $3600 a year.

Laboratorians; salaries $1680 to $2000 a year. (In Roentgenology, Bacteriology and Dentistry.)

Pharmacists; salaries $1680 to $2000 a year.

Applications for positions in the Children's Bureau, Department of Labor, must be received prior to April 24. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or secretary of the board of U. S. civil service examiners at the post office or custom house in any city.

The U. S. Civil Service Commission announces an open competitive examination for graduate nurse, and graduate nurse (follow-up), for filling vacancies in the United States Veterans' Bureau and in the Indian and Public Health Service.

Salary.—*Indian Service.*—The usual entrance salary for this position in the Indian Service is $840 a year, with laundry of uniform, furnished quarters, heat and light. Meals are furnished at cost. Appointees whose services are satisfactory may also be allowed the increase granted by Congress of $20 a month.

As great difficulty has been had in securing sufficient eligibles for the Indian Service, qualified persons are urged to apply for that service.

Veterans' Bureau and Public Health Service.—In the nursing service of the Veterans' Bureau and U. S. Public Health Service, the rates of pay are as given below. For the Public Health Service, in addition to the salaries stated, appointees whose services are satisfactory may also be allowed the increase granted by Congress of $20 a month. For the Veterans' Bureau appointees will not be allowed quarters, subsistence, or laundry, or the congressional bonus. Appointments are usually made at the lower grades and according to assignment and experience disclosed by the examination; the hither grades are usually filled by promotion.

Hospital Service—	Veterans' Bureau	U. S. Public Health Service
Chief Nurse	$2,250 to $2,500 a year	$1,344 a year
Assistant Chief Nurse	2,000 to 2,250 a year	960 a year
Head Nurse	1,800 to 2,000 a year	780 a year
Nurse	1,680 to 1,800 a year	720 a year

Nurses assigned to patients having tuberculosis or neuropsychiatric conditions are allowed increased compensation at the rate of $60 a year in the Public Health Service only.

Follow-up work in district or subdistrict managers' offices, Veterans' Bureau, to be selected from those passing as graduate nurses (follow-up):

Chief Nurse, $2,000 a year.

Head Nurse, $1,800 a year.

Staff Nurse, $1,710 a year.

Nurses having special experience in psychiatry, $1,800 to $2,400 a year. These employes do not receive quarters, subsistence, laundry, or the congressional bonus.

Applications.—Applicants should at once apply for Forms 1312 and 2380, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Customhouse, Boston, Mass.; New York, N. Y.; New Orleans, La.; Honolulu, Hawaii; Post Office, Philadelphia, Pa.; Atlanta, Ga.; Cincinnati, Ohio; Chicago, Ill.; St. Paul, Minn.; Seattle Wash.; San Francisco, Calif.; Denver, Colo.; Old Customhouse, St. Louis, Mo.; Administration Building, Balboa Heights, Canal Zone; or the Chairman of the Porto Rican Civil Service Commission, San Juan, P. R.

Applications should be properly executed, including the medical certificate, but excluding both vouchers and the county officer's certificate, and must be filed with the Civil Service Commission, Washington, D. C., without delay.

The exact title of the examination, as given at the head of this announcement, should be stated in the application form.

The United States Civil Service Commission announces the following open competitive examination:

Junior Medical Officer and Assistant Medical Officer. (Roentgenology; Psychiatry.)

Medical Officer. (Tuberculosis; Neuropsychiatry; Internal Medicine and Diagnosis; Physiotherapy.)

Applications will be rated as received until the close of business on July 3.

The examination are to fill positions in the Indian Service, the Coast and Geodetic Survey, the Public Health Service, and the Veterans' Bureau.

Competitors will not be required to report

for examination at any place, but will be rated on the subjects of education and training, rated at 30%, and experience, rated at 70%.

Definite specifications as to education and experience requirements, and salaries and allowances, are given in the printed announcement, which will be furnished upon request.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or courthouse in any city.

A CASE OF DERMATITIS GESTATIONIS

Mrs. A. B., age 34, V-para, came under my observation in June, 1920, at her fourth month of pregnancy. At that time, she had a small red papule in the bridge of her nose, a little below the lids of the eyes, about the size of a small pea, surrounded by an inflammatory area about as large as a ten-cent piece. In a short time, the center of the papule broke down and the ulceration spread and assumed a deep, punched-out appearance. Treatment with antiseptic and astringent ointments and lotions had no effect. At time of full-term labor, patient's nose was fully twice its normal size and covered with many cheesy looking crusts, in addition to the large ulcer. Inside of three weeks after delivery, the condition had entirely cleared up; and that without any treatment. The patient showed me, when coming under my care, a large scar on her left forearm which, she said, resulted from a similar sore during her previous pregnancy.

This woman became pregnant again in 1921 and, at the fourth month, developed another sore, this time, on the upper lip, which went through exactly the same course, but was somewhat slower in healing after delivery of the child.

Dr. W. R. Jaffrey of this city, a dermatologist, saw the patient with me during her last experience, and prescribed for her, but with no improvement. The general health of this woman is excellent. Wassermann negative. No albumin or other abnormality in the urine. She is the mother of six healthy children, and, until six weeks ago, had had no miscarriages. She recently experienced rather a stormy time with a self-induced abortion at the third month. One must be lenient towards her, this time, for heading off the condition, as her face is badly scarred. If the editor or readers of CLINICAL MEDICINE can suggest a treatment that would be of benefit in this case I shall read it with much interest.

ISAAC E. CRACK.

Hamilton, Ontario.

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As this case was, manifestly, one of endocrine insufficiency, we asked Dr. Maximilian Kern, of Chicago, to comment on it; for the reason that he has investigated problems of this kind for some time. His comment is as follows:

This case presents so many angles that it would be dangerous to attempt a definite diagnosis. It presents many opportunities for theorizing, and one must not make a dermatological diagnosis on the mere knowledge gained from a history. In the absence of more information about the case, one would feel justified, to my mind, to consider it as one of acne rosacea of a somewhat unusual type. While the ordinary acne rosacea is not expected to run such a stormy course as the lesions described in this instance, yet it must be reasonable to expect an accentuation of the condition, in view of the fact that the powers of detoxication of a pregnant woman are naturally greatly diminished. In view of the great demand for colloid substance, which is made on the thyroid gland during pregnancy, we are all aware of the fact that the reserve amount of iodine in the gland is greatly depleted, and, therefore, one of the main functions of the thyroid (namely, detoxication) is very much impaired. In consequence, any pathologic condition of the skin will meet very little resistance on the part of the body, and will, therefore, run a stormy course. After labor is completed, metabolism "rights" itself and the toxicity of the body diminishes; therefore, an almost spontaneous cure is to be expected.

In a recent article in the *Journal of Obstetrics and Gynecology,* Fitzpatrick described an unusual case of Addison's Disease during pregnancy, which was practically devoid of the typical pigmentation of the skin, but presented itself rather in a form of herpes, which, however, assumed all the characteristics of the adrenal disease, a few days before labor, and terminated several weeks after labor.

There is no doubt about the inter-relation between the adrenals and the thyroid. One may be compensatory in its action to the other and, during pregnancy, the adrenals being impaired, one should always suspect, in the condition of the skin, some evil work of the adrenal glands. Even the ordinary chloasma, which is usually found in pregnancy, is considered due to the abnormal condition of the adrenals, and this,

coupled with a localized infection of any part of the skin, would likely produce symptoms similar to those described in this case.

Long before we were acquainted with the value of organotherapy, conditions of herpes, and even acne, have been treated by small doses of thyroid extract. In this case, it would naturally be advisable to watch the diet, institute gastrointestinal elimination and administer thyroid extract, preferably in conjunction with ovarian extract, not omitting, of course, local applications, which the dermatologist in this case has, no doubt, used.

MAXIMILIAN KERN.

Chicago, Ill.

TRIALS OF THE COUNTRY PRACTITIONER

I am practicing in a small country town in the southwestern part of Illinois, between the Mississippi and Illinois rivers. There are no hard roads in this part of the country and, from November to May, all my work has to be done on horseback or in a two-wheeled cart, as not even a four-wheeled buggy is able to navigate these mudholes. Indeed, many times I had to tie my mare to a tree and wade the rest of the way, as not even a horse is able to cross these creeks without floundering in the mud and water.

Several weeks ago, I was called out, in a pitch-dark, rainy night, to attend a woodchopper family living in the swamps of the Illinois river, about six miles from the office. I hitched up Topsy and, with only upsetting twice on the road, I arrived at the hut in due time. Here, I found that I had been called to a confinement case. After cleaning some of the mud off myself, I bathed my hands and arms in 1:1000 solution of bichloride. I started to examine the woman and found a transverse presentation, the right arm of the child sticking out of the vagina. The woman was nauseated and almost unconscious. Her vomit smelled like tobacco and I asked the husband for the reason. He said, "Well, a chew of tobacco always helps me, so I gave her a chew of tobacco. She chewed for awhile, but she started vomiting a short time afterwards." I do not know if he expected that his chew tobacco would cause the fetus to do a somersault *in utero*; anyhow, he succeeded in nauseating his wife very thoroughly.

Well, there I was in a leaky, dilapidated woodchopper's hut, over ten miles from the nearest physician over almost impassable roads. The first thing I did was to give the mother a full dose of hyoscine-morphine-cactoid; afterward, I scrubbed again my hands and arms with 1:1000 solution of bichloride, and pushed back the arm into the uterus, made a version by rotation, finally delivered the foot an, in that way, the child, without any further trouble. A few days ago, I had occasion to pass this hut again and I found the mother singing and doing the family washing; the baby was comfortably asleep in a soap box doing duty for a cradle.

I know that my professional brothers of the city might have handled this case more scientifically; but, if you stop and consider the circumstances under which I was compelled to work, it is clear that I did the best I could in this particular case. Anyhow, the work of a country practitioner might be theoretically the same as the practice in the city; practically, his work is a great deal more difficult and his fees are very much smaller.

ALFRED E. STAPS

Chambersburg, Ill.

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[We wonder why so many country doctors are so desperately modest in their self-deprecation and in comparing their methods and their results with those of city physicians. Doctor Staps could do but one thing: push back the presenting arm and rotate the fetus. The correctness of his procedure is shown by his success. He did remarkably well, better than many city physicians would have done.

Good practice means not to do ideal work, such as is possible under ideal circumstances; but to accomplish the best that can be attained under the circumstances in which the physician finds himself and with the means that he has available. That being the case, we back the country doctor against a good many others for resourcefulness and all-around efficiency in difficult situations. Let the country doctor take heart. He is not a barnacle on the ship of Medicine, impeding its progress; he is an essential factor in the medical world, one of its most important props. He, like the general practitioner everywhere, is slowly but surely coming into his own; he has found his champions, his defenders, his supporters. However, with renewed and increasing appreciation comes increased responsibility for good work, for conscientious effort, for constant and steadfast development and progress.—ED.]

What Others are Doing

PREPARING AUTOGENOUS BACTERINS

Swabs from the posterior nares or from the pharynx that are made by the physician, in cases in which he desires a bacteriological diagnosis, or from which he wishes to have an autogenous bacterin prepared, often give unsatisfactory results. This happens so frequently that some physicians have come to deny that the method possesses any advantages.

However, there is a definite reason for failure either to secure a complete bacteriological diagnosis or an efficient bacterin. The reasons for this failure are well described in an article on vaccine therapy in childhood [*Nutrit. & Ped.*, (London), 1923, First Quarter]. This article deals especially with recurrent catarrhs or "colds" and other ailments in which a stimulation of immunity is requisite for clinical cure. "The most successful way of dealing with this class of cases has been, to take a swab of the posterior nares, using all aseptic precautions, transfer the moist secretion immediately to warmed culture tubes and insert into the incubator, so that the bacteria never become dry or cold. This is of the greatest importance and a fact only realized by a few; i. e., that the patient must actually go and be swabbed at the laboratory in proximity to the working incubator. Failure to take this precaution probably explains the reason why success does not always follow when the swab is sent by post to distant laboratories or elsewhere, where it arrives cold and dry. By then, all the delicate and, often, the most virulent bacteria, including the ultramicroscopic ones, are dead, and only the sturdy and common ones, such as the staphylococci and a few other bacilli, which for the case in hand may be useless, survive the journey."

We feel certain that the explanation given in the foregoing quotation is correct for a great many cases. When proper precautions are taken to prevent drying up of the swab, all microorganisms present can be cultured and isolated in the laboratory and, in consequence, a complete plurivalent bacterin can be prepared from which effective clinical results may justly be expected. The highly scientific idea that bacterins should contain only single organisms and that plurivalent bacterins belong in the class of shot-guns has long since been disproved conclusively. We suggest that, where such swabs are sent to the laboratory from a distance, a sufficient quantity of sterile Ringer's solution be incorporated in the absorbent cotton and that the container be sealed air-tight in order to prevent evaporation.

WALKING AS AN ART

From the many advertised "courses" of exercise one gains the impression that the long-sought cure is at hand. Now some of these "courses" may have something of value in them; in fact, asserts the April issue of *Hygeia*, a few of them may almost be worth the price that is charged for them. None, however, will bring about any better general health than can be obtained by the good old-fashioned walk of our grandfathers. It has often been said that, if fresh air were a commercial commodity and all that is used had to be purchased, it would be more highly prized and more lavishly employed. It is equally true that, if walking were part of a system of exercises that had to be learned through purchased "courses," it would be more popular. A good free, swinging gait; clothing adapted to the weather; shoes that do not cramp the feet and are not too light; a mental attitude that makes you enjoy a walk instead of looking on it as a task to be done—and you have an exercise that will make you more fit than any purchased "course," and a tonic that will put to shame all tonics that were ever put up in bottles. Try it.

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This reminds us of a story that we read, many, many years ago. It was a very famous physician who lived—almost anywhere will do. The story goes that this doctor's fame had traveled afar and near, and that he was successful beyond the ordinary in dealing with difficult problems.

One fine morning, a carriage, drawn by four magnificent horses, drew up before his door, having been sent by a man living in a town, several days' journey away. It may be remarked, by the way, that this was said to have happened long before the days of railroads. This man, who was almost indecently rich, sent word to the doctor that he should forthwith come and attend him.

The doctor had heard something of the rich man's illness and of his peculiarities. He sent him word that he, the patient, harbored a very dangerous animal in his interior which would be seriously disturbed by the ordinary methods of travel; that he, the doctor, could not leave his practice but that he would be willing to see the patient if the latter would come for consultation and treatment. However, he must by no means travel in a coach or in any other conveyance. It was absolutely necessary to walk the entire distance, lest the dangerous animal in him be roused to vicious activity and kill him.

The patient, of course, fretted and fumed and, probably, cursed the insolent doctor to his heart's content. Nevertheless, he was afraid of his life and started out, carrying his two hundred pounds' weight as well as he could. The first day's journey must have been agony, as was also the second and third days. Gradually, though, walking became easier, as the superabundance of fat melted away; and, when the patient finally reached the doctor's town and house, his sense of humor had been restored to him and he was able to realize the doctor's reason for giving the order that he had sent. The "honorarium" was worthy of the rich man and the doctor had another remarkable cure to his credit.

He had done nothing beyond making the patient walk.

THE FORMATION OF GALL-STONES

It is commonly taught that infection of the biliary tract usually plays a significant part in cholelithiasis. The *Journal A. M. A.* (March 10, p. 699) declares editorially that, while the possible importance of the bacterial factor can not be denied, there are evidences that infection is not the sole disturbance that may lead to the precipitation of bile constituents. It has been shown that a sterile thread inserted into the gall-bladder may become encrusted with the calcium salts of the bile pigments, even though the organ remains free from infection. New demonstrations have been furnished recently by Rous, McMaster and Broun of the Rockefeller Institute for Medical Research. They have observed calculus formation in the walls of tubes of rubber and glass adjusted under sterile conditions to collect bile from experimental animals. The stones were never present in the ducts themselves, and they did not occur when the collecting systems remained clear of organic débris, such as dead cells and mucus.

In those cases, The Journal continues, in which infection does play a determining part in gall-stone formation, it seems to act, according to Rous and his coworkers, by damaging the duct walls with resulting desquamation, and by lessening the ability of the bile channels to rid themselves of the cell débris. The latter induces, or furthers, the direct deposition of solids, and may catch and retain potential nuclei for stone formation, in the shape of pigment particles from higher up in the biliary system, which would under ordinary circumstances be voided with the bile. It should be recalled that the sterility of a hollow viscus or duct is maintained in large part by its free evacuation. Any stasis produces conditions favoring the growth of microorganisms that may happen to lodge behind an obstructing mass. Secondary infections, sometimes due to an escape of bacteria into the bile from the liver, may lead to new gall-stones or new layers of old ones. Indeed, it has been asserted that many of the more serious consequences of cholelithiasis are due to such infections rather than to the mechanical effects of the biliary calculi.

TREATMENT OF SOME OCULAR INFECTIONS WITH CHLORAZENE

Dr. Juan Vidal Fraxanet, of Barcelona, Spain, recently presented to the Academy and Laboratory of Medical Sciences of Catalunia, an excellent paper on the use of chlorazene in the treatment of ocular infections.

In describing the composition of chlorazene and its efficiency as a general disinfectant, he offers case reports of ocular infection, all treated by using the 1:1000 solution of chlorazene as an antiseptic. All of these patients made an excellent recovery, and Dr. Fraxanet states that these are only examples of dozens of cases of ophthalmia that he has treated successfully and without complication, by the use of chlorazene. The following are his conclusions:

"1.—Chlorazene is superior to other antiseptics that I have employed.

"2.—I have found no contraindications to its use.

"3.—Solutions of 1:1000 are always well tolerated by the patient, and they can be used in greater concentration in small quantities, a few drops in lachrymal infections.

"4.—In such cases of lachrymal infections, I have always obtained a diminution of secretion, in cases of complete obstructions, and

many cures in permeable cases. In acute contagious purulent gonorrheal ophthalmia, chlorazene is the antiseptic that has given best results of any that I have employed."

THE TREATMENT OF MIGRAINE

Migraine has always been one of the hard nuts that may be presented to the medical practitioner to crack. For years, he has attempted to pass the buck by referring his migraine patients to the ophthalmologist, the otologist, sometimes even the psychiatrist, more recently the dentist. For many years he has attempted to influence migraine favorably by insisting on promoting elimination and by removing all signs of autointoxication, whether of intestinal or bacterial origin.

We have long been convinced that migraine rests largely upon disturbances of metabolism and we are, therefore, greatly interested to find, in an editorial article in the *Journal A. M. A.* (March 10, p. 698) that Pemberton (*Arch. Neurol. & Psychiat.*, 1923, Feb., p. 208) considers headache, migraine, most cases of neuritis, many forms of neurasthenia, certain types of mental depression and melancholia to be results of interruptions in a chain of metabolic processes. Pemberton has been impressed by the similarity of the conditions mentioned to the neuropsychiatric symptoms observed in arthritic patients. Therefore, he assumes similar underlying causes; and since the treatment of many cases of arthritis from the standpoint of the existence of metabolic upsets has been favorable in his hands, Pemberton advocates an analogous procedure in the relief of the less complicated disturbances of the nervous functions.

For the conditions described, lowered sugar tolerance and changes in equilibrium of the blood gases and in the content of certain other constituents of the circulating medium have been among the features detected by laboratory examinations. These have been interpreted to be due to metabolic errors involving some phase of local or general oxidative functions. Treatment is, therefore, directed toward the relief of such conditions. As Pemberton expresses it, part of the metabolic process apparently concerned is, broadly speaking, oxidative in nature. In this is included the delivery of oxygen, the removal of the products of combustion, or both. Interruption of the normal course of events may be due to a large number of factors, among which are external physical conditions, the endocrine system, focal infection, malfunction of various viscera, and various metabolic insults. Appreciation of the general nature of this disturbance makes possible the stimulation of metabolic functions by a variety of measures on the one hand and adjustment of the metabolic load on the other. A combination of the two measures is sometimes helpful or necessary.

One of the ways of "adjusting the metabolic load" is through the path of economy in diet. The load may be lightened by a reduction in food intake, often with success, as has been reported in the treatment of arthritis. Another scheme consists in the use of hydrotherapy or external application of heat, measures often attempted without much consideration of what they may actually bring about in the organism. In a recent issue of the *Journal A. M. A.*, Pemberton and Crouter have indicated that the percentage oxygen saturation of the peripheral blood tends to rise with increased local or body temperature when this is caused by external heat. It was found that, during electric "bakes," the sweat almost invariably changes its hydrogen-ion concentration or "reaction," whatever this may have been at the start. It is generally about neutral at the outset, but becomes more alkaline or less acid as the bake progresses. This is merely a hint of deeper seated physiologic changes.

While neither dietotherapy nor hydrotherapy are new methods and while both have been employed freely for the relief of migraine, the work of Pemberton contains some suggestions upon which successful methods may be based.

NEWS

A Birth Control Bill.—According to the *Journal A. M. A.*, there is before the New York State Legislature a bill entitled "An act to amend the penal code relative to the furnishing by physicians of information and articles for the prevention of conception." The text of the bill provides that

The giving by a physician to any person, married or having a license to be married, of any information or advice in regard to the prevention of conception, on application of such a person to a physician, is not an offense, neither is it an offense to supply, on written prescription of a physician, any article, instrument, drug, receipt or medicine for the prevention of conception.

Among the Books

WILSON: "STUDY OF DISEASE"

The Clinical Method in the Study of Disease. By R. M. Wilson, M. B., Ch. B. With a Biographical Note on the Life of Dr. Horace Dobell. London: Oxford Medical Publications. 1921. Price, $1.50.

Here's a little book that helps to show that not all good things are new, as little as all new things are good. We are speaking of modern things in medicine, because we are so accustomed to smile tolerantly at the ideas of those who came before us. From time to time, we discover how greatly mistaken we are.

Doctor Wilson's book is devoted to a presentation of some of the ideas promulgated by the late Dr. Horace Dobell, who was born in 1828 and died in 1917 at the age of eighty-nine. The last thirty years of his life he spent in retirement but by no means in leisure or idleness; indeed, he retained to the end his indefatigable interest in and preoccupation with medical matters continuing to study and to write up to the time of his death.

Doctor Dobell is known to English physicians and to the students among English-speaking physicians as one of the leading practitioners of his time, especially for affections of the chest organs. His studies concerning pulmonary consumption are classic. He preceded Sir James Mackenzie in insisting that the study of disease must be undertaken by those in touch with it from its earliest hours. He investigated the origin and the nature of symptoms, endeavoring to evaluate them and to draw from his study useful information not only for the study of disease as such but also for the benefit of the patient. "The detection of any sign," he said, "is nothing unless the meaning of the sign is known."

Doctor Dobell was a clinician as much as he was a student. Wilson declares justly of him (when referring to Dobell's witnessing the triumph of bacteriology and of modern medicine): "It is greatly to be regretted that the application of the new knowledge was not more often in the hands of clinical observers of his (Dobell's) caliber. Had this been the case, we should certainly have avoided many of the false hopes which have led us so often to disappointment." Of his keenness of perception, Dobell's essay entitled "The Early Signs of Consumption" bears witness. It is only quite recently that tuberculosis students have been telling us that percussion and auscultation are not the most important means for diagnosis; that clinical observation is far more useful. Dobell noticed three early signs of consumption, namely: Loss of fat, exhaustion and nervous excitability. He adds: "Percussion and the stethoscope tell us nothing of its existence and are only of use so far as they can inform us whether or not the true first stage has passed and tuberculization taken place." "This," remarks Wilson, "is the whole doctrine of the study of early disease in a sentence. It sums up to the whole weakness of laboratory medicine and the medicine of apparatus and machine. That is good so far as it goes; but, because it helps only after disease has become established, it is too late."

There are many gems scattered through the text of this little volume which we recommend to the study of physicians. It is encouraging, it is stimulating, it is helpful. Dobell reminds one of men like Burggraeve, like Sydenham, Benjamin Rush, Austin Flint, Abraham Jacobi, and many others who have graced the ranks of medical practitioners.

POULTON: "TAYLOR'S PRACTICE OF MEDICINE"

Taylor's Practice of Medicine. Twelfth Edition. By E. P. Poulton, M. A., M. D. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1922. Price, $7.50.

While this is an old book, it is old only in the number of editions through which it has passed. This latest (twelfth) revision of the text is made complete so as to bring the material into conformity with present-day knowledge and views.

The author's general discussions regarding disease (organic and functional) regarding symptoms and signs, and so forth, are highly instructive. We are interested in finding that, among the infectious diseases, he discusses glandular fever, encephalitis lethargica, gas gangrene, sporotrichosis and various other "infections" which have been studied to advantage only recently. Instead of "typhoid fever" or "enteric fever," he refers to "the enteric

fevers" and includes, under this heading, typhoid fever, paratyphoid fever A, and paratyphoid fever B.

The chapter headed "Diseases of Metabolism Including Diseases of the Endocrine Organs" is introduced by a discussion of the basal metabolism. Epilepsy is still viewed as a disease of the nervous system. We believe that very soon it will be arranged, at least in part, among the affections due to or associated with glandular insufficiency. We regret to find that the author still recommends the bromides as the most useful remedial agent in epilepsy.

Altogether, the paragraphs devoted to treatment are rather brief, as a rule. That is not necessarily a fault, because a careful study of the general remarks, also of the paragraphs on etiology, symptomatology, pathology, diagnosis and prognosis should make it possible for the physician to determine the best treatment for himself. To depend on definite drugs, mentioned by the author, would be a mistake in many cases. It usually is better to take stock of what effect is desired and then to select that particular drug from that class of drugs that will be most likely to give the results looked for.

REPORTS OF THE ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH

Reports of the St. Andrews Institute for Clinical Research. St. Andrews, Fife. Vol. 1. London: Oxford Medical Publication.

This book should prove attractive to the general practitioner for the reason that St. Andrews Institute for Clinical Research is conducted under the honorary directorate of Sir James Mackenzie who, at the present time, is the greatest champion of the medical man who bears the brunt of the work in medicine, from whose ranks the family physician is recruited, who sees diseases as their very beginnings and, therefore, has the best opportunity to study them.

Doctor Mackenzie has clearly outlined and indicated the great advantages for study and progress that are open to the general practitioner; he also has indicated definitely how greatly progress in medicine depends upon the work of this same general practitioner.

The contents of this first volume of reports are quite in line with Doctor Mackenzie's teachings. General practitioners, as well as medical men in general, should make it a point to acquire and to study everything emanating from St. Andrews.

CUMMER: "CLINICAL LABORATORY METHODS"

A Manual of Clinical Laboratory Methods. By Clyde Lottridge Cummer, Ph. B., M. D. Illustrated. Philadelphia: Lea & Febiger. 1922. Price, $5.50.

Here is a new laboratory guide which will be useful for reference whether for general information or for actual laboratory work. The author appears to attribute the greatest importance to examination of the blood, the related chapter containing 215 pages, more than one-fifth of the entire text, while the chapters on the examination of the urine of gastric and duodenal contents, of feces, of sputum, body fluids, exudates, etc., are shorter but none the less complete. The chapter on bacteriological methods gives instruction for the preparation of important culture media and contains much other information that is essential. We have no doubt that this latest laboratory book will be found useful.

FELTER: "ECLECTIC PHARMACOLOGY"

The Eclectic Materia Medica, Pharmacology and Therapeutics. By Harvey Wickes Felter, M. D. Illustrated. Cincinnati: John K. Scudder. 1922. Price, $8.00.

To the physician who is familiar with alkaloids and other positive remedies, a textbook of the Eclectic materia medica, pharmacology and therapeutics will be welcome. Eclectic medicines have been studied very carefully. The fact that the related investigations have been mostly clinical and only incidentally in laboratory animals does not lessen their value. There is a tremendous amount of interesting information and of useful suggestions contained in this splendid volume which we are mighty glad to have in our library and which we have consulted repeatedly to advantage.

DUNLAP: "SCIENTIFIC PSYCHOLOGY"

The Elements of Scientific Psychology. By Knight Dunlap. Illustrated. St. Louis: C. V. Mosby Co. 1922. Price, $3.50.

"The psychology of today is a science of the conscious responses of the organism, and, as such, is called upon to furnish material applicable to the problems of physical science, education, industry and the arts; and to social problems." We take it that this does not by any means exhaust the applicability of psychologic investigation, in view of the fact that the physician is constantly called upon to em-

ploy psychology in connection with his patients. To the man who has an inclination that way, this guide for the study of the "new" psychology will be very useful.

CLOUGH: "BACKBONE"

Backbone. Hints for the Prevention of Jelly-Spine Curvature and Mental Squint. A Straight-Up Antidote for the Blues and a Straight-Ahead Sure Cure for Grouch. Collected from Various Sources, Arranged and Published by S. DeWitt Clough. Sixth Edition. Chicago, 442 N. Paulina St. 1923. Price, $1.00 in art binding.

"Backbone" will be welcomed back by its many old friends and will be quite sure to gain numerous new ones. It is one of those cheery, optimistic, encouraging treasure-chests of bright sayings, of boosting paragraphs, of helpful stimulation that will tide us over many hard places, that will help us to guard ourselves from yielding to discouragement and that will impress us with the worth-whileness of things. No matter how many unkind things we may say about life, after all, to live is our most important occupation. The next important thing is to make living—the act of living—as efficient, as useful, as productive of good, in short, as worth while as possible. It's a great thing to have plenty of backbone; "Backbone" will help us to get it, if we do not have it; to keep it, if we possess it.

COUE

Is Coué a Foe to Christianity? By Another Gentleman with a Duster. New York. Frederick Moore, 730 Fifth Ave. 1923.

Here is a curious little book that, to be sure, causes one to think a good deal about (not necessarily *of*) Coué, but that occupies one's thoughts even more with the attempt to discover who is behind this slightly-intriguing designation of "another gentleman with a duster." The author deplores the numerous defalcations from the ranks of Jewry to Christianity, more especially to Christian Science. He suggests that Coué's teachings, like Christian Science, may satisfy a certain desire harbored by many Jews which their orthodox religion does not seem to satisfy.

Then, the author examines Couéism from the viewpoint of Catholicism and finds that the two are diametrically opposed, even though the Catholic church has no need to fear Coué, as she considers him quite incapable of doing harm to the church.

The question: "Who is behind Coué?" is an insistent one. It goes without saying that the little Nancy pharmacist could not have financed his American tour; it is doubtful whether he even would have thought of it. The far-spread and remarkably energetic press-agenting that was manifested during Coué's tour makes it clear that some powerful (in so far as money means power) influences were behind him.

Needless to say, the gentleman with a duster does not inform us concerning Coué's sponsor; in fact, he leaves us delightfully in the dark about the whole business.

We have enjoyed reading the little book which can be gone through in an evening's session. Personally, we have rather a sneaking fondness for our genial French visitor of a few weeks ago; we believe that he has done more good than harm. Harm there undoubtedly was. Some people expected miracles, confidently demanded the impossible and, inevitably, were cruelly disappointed. Still, in so far as The People, the man in the street and his wife and his children, are concerned, Couéism possesses many lessons that are good and few that are bad. It is only to the one who searches for motives and who enters into the philosophy of things that the potentialities for evil become manifest. To him, Coué appears in a sinister light. We prefer to retain our first impression of him and really can not see much cause for apprehension.

"GRAPE JUICE"

The Welch Grape Juice Company, Westfield, New York, issues an interesting little book about its product in which it is shown that grape juice possesses real nutriment, that has tissue building or tissue repairing properties. It deals with the advantages of grape juice as a beverage in health, during fevers, in convalescence, and so forth; as an adjuvant in the treatment of constipation and other troubles; as a tonic and appetizer, and to meet various other indications. A series of recipes is presented. We believe that this useful little volume can be had on request from the Welch Grape Juice Company, Westfield, New York.

FISCHER'S MAGAZINE

The latest issue of *Fischer's Magazine* contains several abstracts of articles on diathermy, on the use of quartz light in dermatology, on heliotherapy and other good things.

H. G. Fischer & Co., Inc., 2333-43 Wabansia Ave., Chicago, will be glad to mail copies of this interesting magazine on request.

Colonel James Robb Church

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 30, No. 5 MAY, 1923

Colonel James Robb Church

COLONEL JAMES ROBB CHURCH was born in Chicago, Ill., October 11, 1866. At the age of ten, he moved to the national capital. In 1888, he received the degree of A.B. from Princeton University and, about four years later, the degree of M.A. from the same school. He was graduated in medicine, in 1893, from Columbian University (now George Washington University) and spent two years in Washington hospitals practicing his profession in Washington, D. C., until the outbreak of the Spanish-American War, when he was commissioned assistant surgeon of volunteers with assignment to the famous cavalry regiment, organized by the late Theodore Roosevelt, commonly and affectionately known as the "Rough Riders" (1st U. S. Volunteer Cavalry). Dr. Church accompanied the regiment to Cuba and remained with that organization throughout the campaign. Eight years after the close of the war with Spain, he was awarded the highest decoration within the gift of the nation—the Congressional Medal of Honor, the citation recording an act of unusual heroism and self-sacrifice in that the young officer, at great risk to his life, carried seriously wounded men from the firing line to a place of security unmindful of the risk.

Colonel Church entered the medical corps of the regular army on December 12, 1898, was promoted to the grade of captain five years later, rose to field rank in another five years and was commissioned a lieutenant colonel and colonel May 17, 1917.

Up to the outbreak of the World War, he had a varied and interesting experience, having served in numerous capacities in the United States and Cuba. He served during the first intervention in Cuba at Santiago de Cuba and at Manzanillo. During the Pelée disaster he accompanied the relief expedition to Martinique. He served during the second intervention in Cuba, from 1906 to 1909, as one of the American sanitary officers with station in Havana.

In 1915, at a time when few believed that our country would participate in what eventually became a world war in fact as well as in name, Colonel Church was sent to France as a military observer with the French army in the field. In January, 1916, he became a member of the American Military Mission and remained in France until the arrival of American troops, when he was assigned to duty as assistant to the Chief Sur-

geon of the American Expeditionary Forces in France.

Under orders of General Pershing, Colonel Church undertook the difficult and responsible task of organizing our Gas Service, a problem which he solved admirably because of his great familiarity with the intricacies involved, to which must be added an inherent organizing genius. When, later, General Amos A. Fries came to France and assumed direction of the gas service, Colonel Church remained in charge of the Defensive Section of the Gas Service, and, at the same time, as Liaison officer between the American and French gas services.

Illness contracted in line of duty necessitated his retirement from the active list of the Army, and he was returned to the United States, early in 1918. But, in spite of his illness, he remained on active duty for over three years, with assignment as confidential secretary to the Surgeon General of the Army.

This assignment did not prevent him from rendering conspicuous service as secretary-treasurer of the Association of Military Surgeons of the United States and as editor-in-chief of the official monthly of the Association, *The Military Surgeon,* positions which he now holds.

Colonel Church has rendered conspicuous and meritorious service to our Army and nation through his alertness in the matter of efficient gas defense. How many countless lives would have been sacrificed during the World War, had it not been for his knowledge and care of the defensive measures involved, one can only surmise.

A soldier of rare literary ability and imbued with an unselfish spirit of devotion to duty, he is still a potent factor in medico-military preparedness, his trenchant pen fighting for the best interests, not only of the medical departments of our Army and Navy, but of the entire American medical profession.

Although no longer on the active list of the Army, he is still intimately in contact with the military and civil medical professions, rendering services which are invaluable. Of him, it can truly be said: *palman qui meruit ferat!*

Treating "Chronic" Patients

IN the course of my professional life, it has frequently occurred to me that physicians (I speak inclusively, for myself as well as for others) are essentially human, not only in the good qualities pertaining to human nature but also to those that are not good. Like most people, physicians dislike the tedium of routine, for instance, and the everlasting small, picayune details that form so important factors of our daily life.

Let serious danger threaten, let there be an accident or an acute infectious disease threatening the life of the patient, and the doctor will take off his coat, roll up his shirt sleeves (figuratively speaking) and go to work, exerting every effort to make good the damage wrought by the accident or to increase the resistance of the organism against the attacking infection and to guide the patient back to health.

However, once the danger is passed and the patient is well on the road to recovery, the daily visits to this client become a task that is burdensome. Recovery is fairly assured. With reasonable, careful and faithful nursing, with suitable care and patience, the reestablishment of health is merely a matter of days or weeks, or of months. It can not be much hastened by the physician's conscious efforts and he does not like to do the chores of practice. "The interest is gone."

Much of these chores of practice confronts the physician in his office practice, in the case of his patients afflicted with chronic ailments, who come to him in search of relief and of health. And, as it happens, it is unavoidable that, just in this kind of work, attention to detail, careful, painstaking, even minutious searching for causes and effects are indispensable. Every young physician, after having become established in general practice, thinks, often, with some little envy of those of his colleagues who limit their work to office practice, who are never called upon to go out in all sorts of weather, and who are never obliged to leave a comfortable bed in obedience to a request for help.

He hopes that, some day, he may be able to do likewise, to devote his exclusive attention to office patients and to have enough of these to bring home comfortable returns without having to undergo the greater strain and the more serious responsibilities of outdoor practice.

The two thoughts that we have just elaborated may not be quite logically connected.

However, the trouble is not with us; it lies within the thoughts of the doctor whom we have just referred to. Office practice, be it said, consists in a very large degree of the "chores" of medical practice. Attention to patients afflicted with chronic ailments necessitates, in many cases, picking up the threads that were left tangled after an accident, after an attack of an acute disease, perhaps after an operation. It means that the storm and stress, through which the human machine has passed, has left in its wake irritated nerves, disordered functions—in short, the human organism more or less severely out of whack. It stands to reason that, at the same time, the patient's psyche has suffered and that his morale has been weakened. To bring order out of the existing chaos is not possible with one spectacular action, such as an operation. It requires detailed and patient mending, perhaps in many different places, and it may strain the physician's resources severely to accomplish his end.

Of course, there are instances of chronic ailments that develop *per se* and are not preceded by acute attacks or by accidents.

It is surprising how many more "chronic" patients there are appealing to the physician for help than there are victims of acute disease or of accidents. It is perhaps not quite so surprising, but rather should make us pause and think, that the greater number of these "chronics" wind up in the offices of osteopaths, chiropractors, Christian scientists, etc., after many peregrinations from one regular physician to another. There is something wrong here and we may just as well "pause to think" right now and find out the why of the thus.

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If a "chronic" patient consults a physician and has given a more or less usable history of his ailments, one of two things is likely to happen. The doctor, very naturally, will make an examination, which may be casual or exact. Then, he may write a prescription, perhaps give some instructions concerning diet and habits, and he will direct the patient to report in a week.

Another physician will start with his physical examination and then either make or, have made, examinations of special kinds, including the eyes, the upper respiratory passages, possibly examination of stomach contents; perhaps x-ray, in any case, uranalysis, and so forth. In short, the physician will take or cause to be taken a complete inventory of the patient's liabilities. These he will check up with the assets as they are given in the patient's physical condition; that is to say, power of resistance, degree of weakness expressed by the blood picture, resiliency, ability to "come back," mental stamina, obedience to orders, not to forget the financial status, and so on. The financial status is important because, in many cases, it has a bearing upon the prognosis. Even in that class of patients, who can be referred to charitable dispensaries, the luxury of being ill may be one that can not be indulged in successfully.

The second physician, the one who has secured the fullest possible examination, or examinations, of his patient will, as a logical corollary of the care taken in the examination, exercise corresponding attention in outlining his therapy, keeping in mind that chronic ailments require chronic treatment. With patients in the hands of such a physician, we need have no concern. They will be certain to receive all possible attention, because the doctor will insist on repeating a detailed examination at stated intervals, say, once a month, and he will keep alive the keen interest in the progress of his patient that he has shown in the beginning. Where he needs help from specialists, he will procure it. Where special treatment has to be given, he will arrange for it.

Here, though, by the way, there is a danger of going too far and of increasing unduly the burden that chronic illness imposes upon the patient and upon his or her family. A multiplicity of specialistic examinations and treatments may be beyond the patient's resources. In that event, the reasonableness of "group practice" must necessarily appeal to us. The only caution that we have to offer in this class of medical attendance is: not to overdo things; because many patients have left their medical attendants and have gone to irregular healers because of having been sent from pillar to post, from specialist to specialist, each time with a sizable fee to pay.

The first doctor, the one who wrote a prescription and contented himself with a few casual directions as to diet which were extremely apt to be haphazard and indefinite, arouses our apprehension far more than his colleague. There still are many patients who consider that the purpose of consulting a physician is attained fully after he has looked at their tongue, perhaps felt the pulse, asked a few questions and has written a prescription or given some medicine. In that class of patients—the worse the medicine tastes, the

harder it is to take, the better. The psychic influence is great and the patient is very amenable to it. This may work well for a time, but it will not work indefinitely.

On the other hand, there are numerous patients and their number is growing, who want to know. They want to have their ailments explained to them. They want to be informed of the reason or reasons for therapeutic procedures. They want to learn what the medicine is going to do and why it is ordered. Unless the physician has a very clear conception of therapeutics, he will not succeed in satisfying these patients.

Moreover, the danger is that the announcement of this patient's visit at the office will cause an impatient shrug of the shoulders. The doctor may consider it a hardship to listen to the client's woes and hastens to change the medicine and given some half-hearted consolation and advice.

This doctor dislikes doing the chores of practice; chronic patients hold no interest for him. It is no wonder that he can not hold the patients. Equally, it is no wonder that his office practice is not very successful and that his income is curtailed.

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It is especially from the ranks of patients who have consulted this class of physicians that irregular practitioners recruit their most enthusiastic and faithful clients. Having been treated with scant attention and in a rather bored manner, before, they enjoy the definite, business-like examination and treatment of the irregulars. They are impressed by their assured attitude and by their confident promise of cure.

It does not matter to these irregulars that no honest physician will ever promise a cure. They do not know that he can not do so, that he knows not only his own limitations but the limitations of therapeutics, that he realizes the numerous possibilities of error and the variabilities of human response to identical measures. All these points do not bother the irregular who blithely promises a cure without having a correct conception of the patient's ailment.

Nevertheless, his mechanical treatment may, in numerous cases, produce distinct benefit. There is no doubt about it but what such treatment is indicated many times, when quarts of medicines and thousands of pills are wasted.

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All this may be a very long preachment leading to a very short application. Nevertheless, we believe that this application is clear-cut and true. The point we wish to make is twofold.

First, take and hold an interest in your patients. Do not permit yourself to be bored by them but give them the best that is in you.

Second, remember that medicines and specialists' treatment, even including the electric modalities, do not exhaust the therapeutic possibilities. If mechano-therapeutics (such as vibration and manipulation—Osteopathic, Chiropractic) have any good in them (and we believe they do), it is manifestly up to the doctor to perfect himself in the knowledge of their principles and to apply these therapeutic procedures. They will result greatly to the benefit of the patient, because the doctor, being familiar with physiology (both normal and pathological) will refrain from employing these modes of treatment where they are contraindicated. He will also be able to utilize them to best advantage; in short, he will be in a position to give to his patient what he needs.

Whatever good there is in Osteopathy, in Chiropractics, in New Thought, etc., etc., can be administered by physicians better than by the proponents of these cults. It is for the physician to familiarize himself with everything that is offered for the healing of disease. It is his bounden duty to employ everything that promises to be of benefit.

Friends, in this world of hurry,
And work, and sudden end,
If a thought comes quick of doing
A kindness to a friend,
Do it that very moment!
Don't put it off—don't wait!
What's the use of doing kindness
If you do it a day too late?
—Charles Kingsley.

MOTHERS' DAY

Do not let us forget Mothers' Day! It will be celebrated on the second Sunday in May; that is, on May 13. Those of us whose mothers are still living will wear boutonnières of red carnations, and (don't forget!) we are going to write to Mother and send flowers. Those who are no longer privileged in that manner will wear white carnations or white flowers of any kind; and, lacking our own mothers, we can send flowers or letters to some other fellow's mother, most especially to the mothers of our children.

It will be remembered that the Senate and House of Representatives of the United States of America, in Congress assembled,

passed and approved a resolution on May 8, 1914, designating the second Sunday of May, of each year, as Mothers' Day. While this was not the first occasion on which The Mother was honored officially, we believe that it is the first time in history when a special day was set aside. Poets and novelists have written copiously in honor of mothers. There is no need for us to enlarge upon the subject. Mothers' Day has a deep significance and we, all of us, want to observe it.

If good people would but make their goodness agreeable, and smile instead of frowning in their virtues, how many would they win to the good cause!

ALLEGED FEDERAL AID

In CLINICAL MEDICINE for March (p. 194), there appeared an article entitled "National Maternity Protection" which advocates the acceptance of the provisions of the Sheppard-Towner Act; it also proposes compulsory notification of pregnancy and urges prenatal care, or the continued supervision of and assistance to women during their period of gestation.

We printed this article in accordance with our policy to give contributors an opportunity to be heard, even though we may not agree with their ideas. However, we do agree fully with the value and necessity of prenatal care. We are convinced that the people and also the practitioners of medicine should be educated more fully to realize the truth of the fact that the existence of pregnancy should be announced to the family physician as early as possible and that the latter should instruct the future mother and should watch her during the entire course of pregnancy, assuring her physical well-being and with it that of her child.

While we are in accord with our contributor in that respect, we disagree with him just as firmly in his advocacy of compulsory notification of pregnancy and of the Sheppard-Towner Act. As to the latter, we have written repeatedly and have recorded our objections, which are based mainly on questions of principle. We deem it not only inadvisable but destructive to the best interests of the nation, of the state and of the commonwealth that the police power of the states be delegated to the national government. The fact that the financing of such national supervision in personal matters would fall especially heavily on a few states and would be distributed very unevenly is only incidental. That fact, however, necessarily has a bearing upon the whole question.

What we object to mainly is, the invasion of the family life by the government. Such invasion is justified only in matters which concern the welfare of the community, of the state and of the nation. It goes without saying that the restrictive regulations relating to patients afflicted with communicable diseases and also to patients with mental troubles that make them potentially dangerous to their neighbors are justified. We realize, even, that the bearing of healthy children by healthy mothers has its community interest and its national importance, just as it is a factor in the welfare of the race. However, we assert that the government (whether city, state or federal) does not have the right to interfere in this particular matter except with the consent of those most closely interested.

Doctor Pirkner believes that compulsory notification of pregnancy would diminish the number of criminal abortions. It is a matter of common knowledge that restrictive regulations have never yet diminished infractions. Laws tending to prevent criminal abortion have existed in sufficient numbers for many years. They have never yet deterred anybody, who was inclined that way, from inducing an abortion or from having one induced. The provisions of an act requiring the compulsory notification of pregnancy could be ignored just as easily as could the regulations now existing.

The whole matter rests, we believe, on the mistaken idea that the people can be legislated into being good and sensible—in accordance with the notions existing in the minds of those proposing legislative regulations. There never was a greater mistake. It is education that is needed, education of the physician (we admit) and education of the people. We believe that physicians are fast coming to a realization of the necessity of prenatal care and that gradually they are educating their clients to realize the advisability of communicating to them the existence of pregnancy at the earliest time when it is known. We are convinced that far more can be gained by far-reaching education than by any legislative enactments.

As to the provisions of the Sheppard-Towner Act, we are glad to say that several states, notably New York and Massachusetts, have rejected it. In Illinois, the decision has not yet been made and strenuous objections are being raised against it. The next following editorial on the subject is reproduced from the *Chicago Daily News*, where it appeared during the last week of March.

REJECT HUMILIATING FEDERAL AID

In urging the members of the Illinois general assembly to defeat house bill 298 and senate bill 175, which involve acceptance of the socalled benefits of the federal maternity act, the Civic federation of Chicago gives amply adequate reasons for making the request.

The law in question, providing for the care of mothers and young infants, "involves the principle of extending federal aid to all sorts of functions of chiefly local concern," which principle "is an open door" to governmental extravagance. Further, the measure tends to break down local self-government and materially extends the powers of national authority. Anything that weakens the self-reliance of the individual or the community is a direct invitation to dependence and the servile attitude that goes with it.

A peculiarly mischievous quality of the federal maternity act, like similar federal measures which have been adopted or advocated, is, that it ostensibly gives something for nothing. The fact is, that such legislation constitutes a bold abstraction of funds from the pockets of Illinois taxpayers. The estimates of the Civic federation are interesting. "Illinois," it says, "would receive as 'benefits' from the federal act $58,739 the first year and $53,739 the second and subsequent years, while her taxpayers would pay into the federal fund for this distribution to the other states, $125,268 the first year and $104,953 the second and subsequent years, in addition to which she would be adding $48,739 each year to the state taxes."

But some persons argue that, since the federal law is in existence and since other states are drawing federal money as a result of it, Illinois should be alert to take advantage of the proffered distribution. The sufficient answer is that the act will cease to operate in four years unless congress is encouraged to extend it. As the Civic federation says, "Its acceptance by the Illinois general assembly would encourage a renewal of this imposition upon Illinois citizens and the creation of more like it." Illinois should range itself with New York, Massachusetts, Maine, Louisiana, Rhode Island and Washington, which as a matter of principle—a sound and wholesome principle—have refused to accept the terms of the federal maternity act.

Illinois, through its various local governments, is ready and willing to take care of any mothers and infants who need assistance. In so doing, it will maintain its independence. Acceptance of doles from federal authority is both humiliating and demoralizing. This state cannot stoop to mendicancy without suffering the inevitable consequences. [*Chicago Daily News.*]

EDITORIAL RESPONSIBILITY

Like most journals, CLINICAL MEDICINE occasionally gives space to articles expressing opinions not at all in accord with those entertained by the editors. It would be a rather narrow and hide-bound attitude to act differently. If there were no discussion, if there were no differences of opinion on any problem, there could be no progress. Besides, it is only fair to give a hearing to representatives of both sides that are invariably connected with any question under consideration.

That being the case, it necessarily follows that the editors of a journal can not be held responsible for opinions expressed in any way over the signature of any contributor. It is not even necessary that the editors should declare, in each instance, that a certain article is at variance with their position.

The personal opinions entertained by the managing editor and by his colleagues do not decide as to the acceptance or rejection of any manuscript submitted for publication. The criteria that are applied are constituted solely by the timeliness and usefulness of the problems discussed in a given article and in accordance with the service, the stimulation and the benefit that the discussion of such a problem may afford to the readers.

This may answer some objections that are occasionally raised against certain articles that have appeared in CLINICAL MEDICINE. It may also help to explain the rejection of some other articles that had been submitted but could not be accepted.

A USEFUL ADVERTISEMENT

Some advertising schemes are clever, in so far as they put their message over and bring inquiries as well as buyers. If the advertised article can sell on its merits, both, purveyors and customers, are served well. If the sale benefits the manufacturer and merchant more than the customer, the transaction may be beneficial to the former—for a time. It certainly will not result in repeat orders which, after all, constitute the important factor in successful manufacturing.

Our attention was called, recently, to a lit-

tle advertising scheme that appeals to us as uniformly useful, in so far as it tends to stimulate sales and is equally certain to result in satisfaction on the part of the customer.

The Hygeia Nursing Bottle Company offers to physicians, who attend maternity cases, little booklets of coupons which they can distribute among their obstetric patients and each one of which calls for one Hygeia nursing bottle, free of charge. From our examination of this particular nursing bottle, we can well understand the faith that has dictated this policy and we feel certain that physicians who avail themselves of the offer will find their patients well served. Particulars concerning this matter appear on advertising page 17 of the April issue of CLINICAL MEDICINE.

NEAR EAST RELIEF

It is an unfortunate fact that the destruction wrought by war invariably affects women and children even more severely than the active fighters and that these innocent victims suffer the consequences of war for years afterwards. The unfortunate World War, through which we have passed but a few years ago, is far from being a closed chapter, several of its evil consequences having taken the form of lesser wars which were sufficiently destructive and harmful to the peoples concerned and which carried in their trains the usual consequences, namely, suffering, deprivation, illness and death.

In order to aid, especially, the children in the Near East countries, the Near East Relief was incorporated by act of Congress and has undertaken the rescue of orphans in the countries concerned. It is a pleasing change to know that this charitable undertaking not only is supported by men and women of national prominence who serve on its committee but also that the administrative overhead represents only five percent of the expenditure and that even that is largely taken care of by contributions specifically designated for this purpose. It follows that virtually all contributions made to the Near East Relief actually benefit those in whose behalf they are made.

The Near East Relief, we are told, is now educating 115,000 children, training them to be self supporting and to become leaders of a new Near East imbued with American ideals and endowed with American education. There still are 1,500,000 homeless, helpless refugees, since the fall of Smyrna for whose assistance further contributions are asked.

Five dollars a month will save the life of another child.

Those of our readers who are desirous of aiding in this worthy undertaking are referred to advertising page 58 where they will find a coupon ready to be filled out.

Responsibilities do not detract from complete happiness; they are essential to it.—Gordon Arthur Smith.

AMERICAN MEDICAL AID FOR RUSSIA

From a letter received by the Editor:

To determine hospital facilities of Russia today, and the condition of her medical personnel, the National Information Bureau of New York requested its recent Russian Commission to conduct a detailed Health Survey. These findings are not yet available in report form, but the enclosed letter by Dr. Henry Eversole sets forth a startling array of facts [The letter will be found on page 365 of this issue of CLINICAL MEDICINE.—ED.]

Surely the physicians of America should realize Russia's health problem and be given opportunity in some measure to help relieve the burdens of their Russian colleagues! Will you not assist us in placing Dr. Eversole's information before the profession by printing this letter, adding such editorial comment as proves practicable? The expense involved prohibits our reaching the individual physician, but our difficulty can be largely solved with such cooperation on your part. Will you not also aid us in any other way that suggests itself?

The physicians of Russia need food, clothing, the bare necessities of life. But more than material aid, they need a sense of intellectual continuity with the traditions of the profession and with their colleagues throughout the world. Instruments, supplies and medical books, journals and reprints are earnestly requested.

The American Medical Aid for Russia contracts to apply to the relief of Russian institutions and medical personnel, without deduction for administration and transportation charges, all that your readers contribute in money, instruments or literature. Relief will be handled by the AMERICAN FRIENDS SERVICE COMMITTEE (QUAKERS), of which this organization is the medical division.

Supplies should be sent to American Medical Aid for Russia at either 1521 Cherry St., Philadelphia, Pa., or 108 Dobbin St., Brooklyn, N. Y., depending upon point of origin.

Address correspondence to 103 Park Avenue, New York.

With cordial thanks for your cooperation,

Sincerely yours,

FRANCES WITHERSPOON,
Executive Secretary.

New York.

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[Doctor Eversole's letter appears on another page of this issue of CLINICAL MEDICINE. No doubt, our Russian colleagues are in urgent need of aid. Equally without a doubt, physicians are already taxed to the utmost rendering assistance, not only in the ordinary course of their calling but to various relief associations.

This is something which each one must determine for himself. We sincerely hope that conditions in Russia will improve in course of time and that the American medical aid for that unhappy country will be ample.—ED.]

I'll be hanged if I can understand how a man who has it in him to be one hundred percent American hero in war can be a Simon-pure slacker in times of peace.—Harold Bell Wright.

PROPAGANDA AGAINST THE MEDICAL PROFESSION

"...he that filches from me my good name
Robs me of that which not enriches him,
And makes me poor indeed."

The first of a series of four articles entitled "Our Medicine Men" appeared in the July issue of the *Century Magazine.* These articles were an attack on the ability and integrity of the medical profession by an anonymous author, using the *nom de plume,* "One of Them." In the October, 1922, issue of the *Century Magazine,* an advertisement of these articles appeared announcing their publication in book form, giving the author as "K...., M.D." When the book finally appeared, decorated with drops of blood, a skull and crossbones, etc., the reader was informed that the author was "Paul H. DeKruif". About this time, another series of articles, viciously attacking the medical profession, made their appearance in *Hearst's International,* under the general title "Doctors and Drug Mongers." The author was given as *"Dr.* Paul H. DeKruif." Investigation revealed the fact that the author was not an M.D. but a Ph.D.

Due to adverse comment appearing in the medical press, the use of the title "Doctor" was discontinued by this author.

The "Doctors and Drug Mongers" articles were a most vicious attack on the intelligence, ability and honesty of the medical profession, many recognized medical procedures being most injustly impugned in them. The series reached a climax in the article which appeared in the December issue, entitled "Vaccines for Broken Legs", and was particularly beside the point and uncalled for. The author showed his lack of fundamental understanding of the principles of vaccine therapy and their practical application.

He did not confine himself to a calm dissertation on the subject of vaccine therapy but launched into a tirade against the medical profession and a personal attack on Dr. G. H. Sherman of Detroit, the well-known producer of bacterial vaccines.

We are informed that Dr. G. H. Sherman has instituted legal proceedings against William Randolph Hearst, DeKruif and others for the libel committed, in a suit for $1,600,000. This suit promises to be one of great interest to the medical profession as, undoubtedly, the fine points of vaccine therapy will be discussed by the eminent men who, Dr. Sherman says, he is prepared to have as witnesses. Dr. Sherman must feel confident that he can substantiate his statements regarding the indication and limitations of bacterial vaccines, to sue an organization of the power and financial status of the Hearst interests.

The following statement from the article "Vaccines for Broken Legs" is typical of DeKruif's writings. "...., many doctors refuse to listen to the warnings and advice of men who are in a position to know, and who really have the welfare of both the public and the doctors at heart. If the profession does not wash its own dirty linen, the disagreeable duty will have to be done by others. *That is the principal purpose of this series."* [Italics not in original.—ED.]

The Century Company contemplates the publication of these articles in book form. It would be very unfortunate if these scandalous and unfounded attacks against the medical profession should be more widely distributed and perpetuated. We hope that Dr. Sherman's suit against Hearst will deter The Century Company in their intention to republish these articles. Surely, the medical profession does not want these attacks against them repeated and disseminated still further, through a vicious and unwarranted inimical propaganda.

We understand that DeKruif is now collaborating with Sinclair Lewis on a book devoted to the small-town doctor. If we can foretell the future of the past, another attack on the medical profession is in preparation. Something should be done to forestall it.

These articles and books, circulated by the hundreds of thousands, are all excellent advertising for the drugless cults. Discredit the physician, and the cults grow. From an economic, scientific and humanitarian standpoint, the misstatements made therein should and must be corrected.

A GOOD LOCATION IN CALIFORNIA

One of our correspondents informs us that there is a splendid opportunity in one of the small southern California cities, in the citrus belt. There is no surgeon in the place and there are only four general practitioners. We are told that the people are thrifty and that the work is splendid.

Physicians, especially surgeons, can receive further information by addressing the Managing Editor of CLINICAL MEDICINE.

NATIONAL BOARD OF EXAMINATIONS

The National Board of Medical Examiners sends us the following information concerning examinations to be held soon:

Part I,	June 25, 26, 27, 1923
Part II,	June 28, 29, 1923
Part I,	Sept. 24, 25, 26, 1923
Part II,	Sept. 27, 28, 1923

All applications for these examinations must be made on or before May 15.

Further information may be obtained from the Secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

Medicine has changed in the last forty years but human nature has not.—Nascher.

℞ BARBITAL, NOT VERONAL

During the last months, it has seemed to us that an increasing number of cases were reported, in the daily press, of poisoning through overdoses of "veronal". Some of these poisonings were accidental. Others, undoubtedly, were premeditated. Some probably were suicidal, while a number may have been homicidal.

As has been the case with altogether too many drugs, the name "veronal" has become public property, first of all, through the carelessness of physicians themselves. It is only later, when patients had learned the name of this efficient hypnotic and had commenced to buy it over the counter, that its makers advertised it to the public.

The absurdity and the perniciousness of the habit indulged in by many physicians, who inform their patients of drug names, can not be criticized too strongly. Remedies which are capable of developing a habit should never be designated by name, much less should a trade name or a popular name be employed, whether in conversation or on prescription. It is folly for the physician to tell the patient to go to the drug store and buy some "veronal" tablets. If he is too lazy to dispense or to write a proper prescription for a small number of doses, he is untrue to his trust, he endangers his patient's welfare and he is, in part at least, to blame for accidents that may happen.

When writing prescriptions for this particular hypnotic, physicians should order the drug under its official name, as accepted by "New and Nonofficial Remedies," namely, Barbital or Barbital Sodium. Still better, it would be, to order Diethyl barbituric acid (Barbital) or sodium diethyl barbituric acid (Sodium Barbital). It is as well to keep in mind that "veronal" is in no way a scientific designation but was introduced purely as a trade name, one that is easy to remember; and, for that reason, it should be eschewed.

The same, of course, holds true for "aspirin", which should be prescribed as acetylsalicylic acid; for "salvarsan", which should be ordered as arsphenamine, and so on through the list.

THE SHEPPARD-TOWNER ACT

Another editorial in this issue of CLINICAL MEDICINE (page 311) makes reference to the Sheppard-Towner Maternity Act and declares that, in our opinion, the provisions of this federal legislative performance are not tending to work for the best interests of those really concerned in it: namely, the future mothers and their babies. The Act, as accepted by Congress, makes it possible for a large number of easy jobs to be created and for much interference in personal and family matters to be indulged in by outsiders. It really provides no funds the expending of which would actually benefit pregnant women or newborn babies.

In the *Illinois Medical Journal*, for March, a detailed discussion of the whole problem was presented under the four heads here named:

"Illinois should refuse to cooperate with the Sheppard-Towner Act."

"How thinking men view the maternity act,

state subsidies and similar menace legislation."

"Under the provision of the Sheppard-Towner Act, the federal government will control the expenditure of state appropriations."

"Maternity education should be directed and supervised only by physicians."

The Sheppard-Towner Act is objectionable in every way. It does not offer any benefit to the potential and actual mothers, it does not help the babies, it discriminates against the more densely populated states, it interferes in the police power of the states: It is vicious morally, socially, economically and financially. It should not be condoned by the state legislatures.

We have not been able to review the editorials in the March issue of *Illinois Medical Journal* for this issue of CLINICAL MEDICINE. They have been reprinted in pamphlet form, and copies can be obtained, we believe, on request to the Editor (25 East Washington Street, Chicago). We suggest that physicians residing in other states than Illinois enclose a two-cent stamp in their letter asking for copies. The Illinois physicians have received them already.

A merry heart doeth good like a medicine; but a broken spirit drieth the bones.—Proverbs, XVII:22.

THE VITAMINES

It is a little over five years, since a report by Prof. Philip B. Hawk and his collaborators on his observations following the therapeutic use of bakers' yeast (*Jour. A.M.A.*, Oct. 13, 1917) aroused a general enthusiasm fostered by the adroit use of advertising which led to the far-spread and massive consumption of yeast. Not so long before that, we had given up consuming turnips and sinkers and flapjacks and hot dogs, changing our diet to proteins, carbohydrates and fats measured by calories, of which a requisite number had to be ingested daily. In the meanwhile, it had been found that feeding with these essential chemical substances did not produce very satisfactory results in the experiment animals which seemed to lack in something that evidently was supplied by their natural food, however pure the chemically correct ration was and immaterial how carefully it had been measured in calories.

The deduction was, a postulated "accessory food factor" which had not yet been discovered but without which growth and, indeed, health could not be sustained. This missing link in the chain of essential food factors had made its absence felt particularly keenly in the preserved and, still more, in the chemically-purified and "refined" foods with which the market was flooded by ambitious manufacturers, a few years ago, who managed to purify most of the vital elements out of their products.

Shortly after Professor Hawk's report, the peculiar merit of yeast was declared to lie in its contents of vitamines, of which particularly the water-soluble B was represented very fully. It will be remembered that, in addition to this, a fat-soluble A had been demonstrated and a water-soluble C had been postulated and, indeed, accepted by American and British investigators. The yeast craze took on a new phase and yeast was devoured, now, in terms of vitamines, particularly the water-soluble B.

Needless to say, the demand was promptly met by an adequate supply; if, indeed, it was not fostered judiciously by clever advertising. Yeast preparations in fair number were placed at the disposal of physicians and of the laity alike. The popular estimation in which the vitamines are held and accepted as the mysterious "accessory food factors" has not yet died down and, it is justified; at least, to a great extent.

It has been asserted by those whose (self-imposed) mission it is to discourage fads and who reduce everything, even the most enthusiastic and go-ahead movement, to terms of one, two, three, that there was no necessity to resort to special means for an adequate supply of vitamines, since a suitably balanced mixed diet contains not only all necessary chemical elements of proteins, carbohydrates and fats but also the "accessory food factors," of vitamines. Therefore, for the maintenance of health, it was necessary only to observe a sensible dietary.

All of this is very true. However, there are some slight difficulties connected with the maintaining of a reasonably balanced dietary, and Dr. J. F. Taylor ("The Medical Interpreter," Vol. 4, 1923, No. 126) declares justly that "the present fad of eating yeast is an unconscious protest against machine-made foods, or at least it is the result of a growing conviction among scientists that the tinned soup, the canned vegetable, the sterilized milk, the finely-bolted flour, the too highly refined food in general have lost in the handling some of their value in nutrition." Speaking of the days of common-sense diet, liberal in amount and varied in quantity, prepared as the good housekeeper used to pre-

pare it, Doctor Taylor reminds us that "broths and soups were prepared by simmering, not boiling! The fresh vegetables and the soup-bone simmered for hours, at the cost of much fuel, extracting without destroying the valuable but evasive and fugitive essentials for nutrition, instead of their being boiled and spoiled."

"The old-fashioned cook," Taylor says, "did not, ten minutes before meal hour pop a ten-cent tin of prepared soup into a pan of boiling water nor save time and labor by running to the corner grocer for her tinned vegetables, to the delicatessen store for her ready cooked meats or the output of the cold-storage plant."

"Since the human economy requires (in addition to proteins, carbohydrates and fats), certain food elements which are commonly called vitamines, they must, naturally, be supplied. The vitamines exist in some protein, fatty and carbohydrate foods and not in others. In no case are they present in large amounts. Therefore, to secure them, a large assortment and a goodly quantity of the three type-foods is essential. If these 'type-foods' (proteins, fats, carbohydrates) are purified to excess, the result must lead to disaster." To quote Doctor Taylor further: "Certainly the laboratory and the factory which have cheapened food by canning and preserving it and the well-meaning legislator who has purified it, in some cases, perhaps, to the exclusion of the vitamines, owe to the public the corrective for machine-made, ultrapure and deceptive products."

Even for healthy people, therefore, a well-balanced, common-sense diet means more today than a mixture of proteins, carbohydrates and fats arranged so as to yield between three and four thousand calories per diem. At least the fat-soluble A and the water-soluble B vitamines must be supplied in order to complete the requirements. Fortunately, these accessory but essential food factors can be procured by eating fresh vegetables and fruits. They are also present in fresh meats, fresh milk, fresh butter, fresh eggs and other articles of diet that have not been preserved by steaming or chemicals.

While the healthy organism can truly be sustained and avoid manifestations of dietetic deficiency by a properly balanced common-sense dietary and while, here, there is no need to resort to the addition of yeast or other vitamine-bearing substances, the same can not be said in case of illness; and it is here, especially in the patient with digestive disturbances, that the physician should have at his disposal reliable preparations that contain the vitamines in a readily-assimilated form in which they can be added to those doses of the type-foods that may be prescribed in a given case. The favorite source of supply for vitamines is yeast and a considerable number of yeast preparations has been offered on the market, some to the medical profession, some (through exuberant and, therefore, misleading and deceptive advertising) to the laity. The vogue of the latter seems to be dying out. Not that it ever did much harm, we believe, except as regards the needless expense of dollars and cents. However, the medicinal vitamine preparations have become established as essential remedial agents and are fully recognized as such.

A few months ago, there was published a report from the Connecticut Agriculture Experiment Station, at New Haven, Connecticut, (Bull. 240, August, 1922) which constitutes the twenty-seventh report on food products and the fifteenth report on drug products. Part 1 of this report, dealing with commercial vitamine preparations, was written by Dr. E. M. Bailey. We understand that copies of this Bulletin are mailed free to citizens of Connecticut who apply for them and to other applicants as far as the editions permit.

The experiments were carried out for the purpose of testing the potency of some commercial vitamine preparations as compared with that of dry brewers' yeast, and twenty of these commercial vitamines preparations were compared with brewers' yeast which served as control.

In the special test, a young rat was placed in an individual case with a sufficient supply of food constantly before it. This contained proteins, carbohydrates, fats and inorganic salts and was adequate in all respects except that it was lacking water-soluble B vitamine. The weight of the animal was charted twice each week, with such intermediate check weights as circumstances required. With water-soluble B absent from the diet, appetite fails, food intake is diminished and body weight declines. When the animal had shown a persistent and conspicuous decline in weight, the trial-unit quantity of commercial vitamine preparations was added to its diet daily. The duration of the test depended upon the behavior of the animal. If it recovered and increased in weight, the trial was terminated when the animal had acquired its normal weight. If it did not recover but continued to decline, the commercial vitamine under test

was withdrawn, an equal quantity of dry brewers' yeast substituted and the recovery period made sufficiently long to demonstrate that the animal still possesed recuperative powers. Dry brewers' yeast was administered in all cases where the commercial preparation itself did not bring the animal to normal. In the chart of the original trial test in which dry brewers' yeast was used, the influence of vitamine deficiency is very clearly shown. Before the brewers' yeast was added to the food lacking in water-soluble B vitamine, the first brief period of increasing weight gave place to a marked decline. As soon as brewers' yeast was added to the diet, the weight curve made an equally decided bend upward.

Without entering into the details concerning the tests with the twenty individual commercial vitamine products under consideration, it is only just to report, from the discussion a summary of results (p. 50 to 51 of the Bulletin), that suitable doses of three preparations, namely, Yeast Vitamine-Harris tablets, Yeast Vitamine-Harris powder and Vegex brought the experimental animals to their normal weight within the duration of the period of the experiment. In these animals, it was not necessary to resort to brewers' yeast to help the animal in overcoming the first induced deficiency. While this was done occasionally by, say, the supplementing of commercial vitamine preparations, it was largely for the purpose of determining the dose of the yeast preparation required to bring results.

It had been found that daily doses of 100 milligrams of dry brewers' yeast and, in case of the three commercial preparations referred to, the same quantity was sufficient to cause the animals to recover.

Other preparations which produced growth closely approximated that secured in the trials were Cerevisine, Yeast Form Tablets (Merck's), Medicinal Yeast (tablets and powder), and Metagen.

These experiments are of considerable interest to physicians, especially in relation to those of their patients whose digestive and assimilative powers are interfered with, and no less in the case of those where a deficiency in necessary and essential food factors has clearly manifested itself by clinical symptoms. We have come to consider scurvy, pellagra, and beri beri as deficiency diseases. Rickets was formerly included, but it has been shown that the deficiency pertains more to light than to food factors in this disease. There are other conditions in which insufficient growth, inadequate development, deficient strength may be attributed to a lack of vitamines. In so far as this factor enters into the etiology of a presented case, the physician is called upon to select the best available commercial vitamine preparations unless he prefers to make use of dry brewers' yeast.

The days, when a round stomach, heavy gold watch chain stretched across it, and a fine set of whiskers helped a man in business, have gone by—although some doctors seem not to know it.—Arthur Brisbane.

GALL-STONES

A contributor to another department of this issue of CLINICAL MEDICINE (p. 370) propounds the idea that cholelithiasis is not a local but a general, systemic, disease. If it were a local disease, as is generally believed, he avers, it would be relieved by surgical intervention which would, he claims, permanently relieve every case of gall-stones except in atrophy of the gall-bladder.

Our contributor adduces certain symptoms which, he says, precede the formation of gall-stones, in support of his view. Thus, a lowered systolic blood pressure showing that the individual is living on a lowered level than he should; and more or less marked indigestion; slight pain over the gall-bladder and radiating toward the middle line; sluggishness, and so forth.

Aside from the fact that these symptoms are said to *precede* the formation of gall-stones, they seem rather to be the consequence of actual trouble that is present in the gall-bladder.

While our contributor contends that microbes of any description, coming from the digestive tract, do not have anything to do in bringing about cholelithiasis, it is generally accepted that the localization of bacteria is one of the important etiological factors. It is true that these bacteria (namely, B. coli, B. typhosus, streptococci) are not commonly derived from the duodenum but reach the gall-bladder through the blood paths; the infection is hematogenous. It is said that the onset of cholelithiasis sometimes appears to be associated with the occurrence of specific fevers, such as typhoid fever, scarlet fever, measles, influenza. At any rate, the important role played by bacteria in bringing about gall-stone formation is undoubted.

Gall-stones may also be formed without the intermediation of bacteria and may be aseptic,

(*Concluded on page 348*)

Leading Articles

Cancer of the Breast

A Study of 250 Cases in Private Practice

By L. DUNCAN BULKLEY, New York City

Senior Physician to the New York Skin and Cancer Hospital, Member of the American Association for Cancer Research, Etc.

ANY one who has thoroughly mastered Handley's[1] remarkable study and demonstration of the lymphatic-permeation theory of dissemination in cancer, and is at all familiar with the many and able surgical books and writings on cancer of the breast, and their narration of cases, and who fully grasps their statements of end results, must wonder how the surgeon can ever expect to cure the disease in this region by the knife, although remarkably favorable claims have occasionally been made. If more cases were followed up for periods of years, and if the results were compared with the death records of patients left without surgical excision, the statistics would prove to be very different. No doubt, many of the favorable reports are due to faulty diagnosis, such as the excision of benign tumors, cysts, adenoma, adenocarcinoma, fibroma, and even tuberculous and syphilitic lesions, etc. If full microscopic diagnosis were given of every excised mass, there would be fewer claims of the cure, by the knife, of true carcinoma; and if the patients were watched longer, with careful records being made, there would be more recurrences found. The rapidity, extent, and progress of lymphatic permeation are such that it would seem almost an impossibility to circumvent it by surgical procedure, and experience seems to warrant this conclusion. X-ray and radium are equally helpless in reaching the real, systemic cause of the disease, carcinosis, and only seek to remove its products or manifestations. Consequently, there is recurrence.

The more this process of lymphatic permeation is considered, the more does it seem to point clearly to a systemic, or constitutional, nature of carcinosis, which best explains the rapid involvement of the lymphatic system, damaging it so greatly that life processes cannot be carried out, and the patient succumbs. For, Handley pretty clearly demonstrates that the embolic theory of dissemination as a principal cause of cancer recurrence is no longer tenable, although it has still many supporters.

[1] Handley, "Cancer of the Breast, etc." Second Edition, London, 1922.

Concerning 250 Cases of Cancer

In analyzing the 250 cases of breast cancer, which have passed under my observation and treatment in private practice in over forty years, I regret that we find that the recorded histories of many of them are not as complete as could be desired. During the earlier years, when my attention was largely directed to dermatology, there were some cases seen casually in skin patients, where the breast lesion (which had been diagnosed as cancer by several surgeons, and for the relief of which an operation had been urged), disappeared in the course of some months under careful dietetic, hygienic, and medicinal treatment employed for other complaints.

It was this circumstance which led me, in creating the New York Skin and Cancer Hospital, over forty years ago, to add Cancer to its title, as I then felt certain from experience that the disease was constitutional, and that it would yield to proper internal measures. The surgeons were, therefore, designated in the Annual Report as "Operating Surgeons," to act only when called on by the Medical Officers. But, surgical domination succeeded after a while in separating cancer and consigning it to surgical operations.

Very many, often far advanced or post-operative, cases have also been seen in consultation, and recorded without the full histories which could be now desired. But a large number of patients have been carefully studied and followed up, some of them for years, and abundant notes made. Those of them, who have conscientiously and faithfully followed out exactly the right regimen and medication for a sufficient length of time, generally have experienced results that are most

gratifying. When the carcinosis has been thus made to retrogress, and the lump or lesion to disappear, there is no recurrence, nor can there be, unless the patient returns to the same errors of life which produced the first lesion, as in the many cases that have been watched for five, ten, fifteen, and even twenty-eight years; one striking instance to be reported in full later.

Localization of the Cancer

As to location, the right breast was alone affected in 82 cases, the left in 92 cases, and both in 16 cases. In many of the earlier cases, no localization is given. One married lady, aged 30 years, who was never pregnant, had cancer of both breasts consecutively; the right one was first affected, the disease disappearing within about a year. Then she became very careless, eating outrageously and drinking whisky and, about 5 years later, the left breast developed a characteristic tumor, which also vanished when she again returned to a proper life and careful medical treatment. That was eighteen years ago and, when seen recently, she was found to have remained free from cancer.

Among these cases, there were 88 primary, 75 postoperative, and 87 not given. Of the whole number, 183 had been under surgery, x-ray, or radium, ineffectually, alone or combined. It is needless to say that the last-mentioned cases are much more difficult to treat medicinally, and I have seen some terrible burns from the latter two agents.

Duration of Trouble

The duration of the disease, from its first suspicion to the time of coming under treatment, has varied greatly. In a few cases, it has been very short, a few days or weeks, and these cases have naturally done the best, as the group of mutinied cells is not large, and there has been little lymphatic permeation. The cells then have been quite easily persuaded, by kind attention to their nutrition and innervation, to return to their former normal state, without metastasizing. With recurrence after operation, in some instances after from one to four operations, the task is, of course, much more difficult, but in certain cases the results have been most gratifying in the prolongation of life and in the relief from pain, without opiates which only heighten the carcinosis. Some patients have come, who have had the disease many years; the longest, 40 years.

Duration of Treatment

The duration of medicinal treatment has varied greatly. Unfortunately, there have been quite a number (167) who were seen only once or twice, when they perhaps wearied of the necessary restrictions and the prospect of a long treatment, and through the influence of misguided friends or medical advisers were lured away to take the spectacular chances of the knife, x-ray, or radium. Cases seen once or twice in consultation have naturally not done so well, for it is difficult to secure from physicians or surgeons such a close adherence to the minute details of treatment as is necessary to secure success.

Results of Treatment

The final results of medicinal treatment are difficult to express in large figures, as so many patients come from distant points, and, in spite of some hundreds of personal follow-up letters, there has not been the number of responses that could be desired. But, judging from the records studied of patients who have done excellently well when last seen, when the diseased mass had steadily decreased or was almost gone and the patient's health had greatly improved in every respect, it is fair to judge that the improvement has progressed to a cure, as in the many patients who have been seen for a long time. As a rule, all early and non-operated patients have gotten well, as I can find only one or two exceptions in those who were absolutely faithful to all directions as to treatment. Of course, patients who have been operated on in one way or another are difficult to reach, but there have been some results which were most gratifying.

Cases Ending in Death

The total number of deaths which diligent inquiry, by hundreds of personally written follow-up letters, has revealed in these 250 cases is remarkably small, only 34, and most of these deaths were in very late or in post-operative and consultation cases. There were undoubtedly more deaths unaccounted for, but at the utmost the mortality was small indeed compared with that commonly expected; but even if the number were doubled, that would be a very small percentage of deaths.

There were but 11 deaths discovered in un-operated cases, which were as follows:

Case 1.—Mrs. M. B. J., widow, aged 68, with four children, was sent to me Feb. 17, 1914. Two years previously, she noticed a lump in the upper part of the right breast, after great and repeated mental distress from the death of a number of very near relatives, and a sister's mental derangement, the great nervous strain having been attended by various bilious attacks and nervous indigestion. The mass increased steadily in size, but was kept concealed even from her family, until the day

before she called. Her family physician then recognized that it was far beyond hope from any operation, in which view a prominent surgeon concurred.

When first seen, the whole breast was involved, double the size of the other, like a very large half-melon, hard and immovable. There was a rather thick crust, several inches in diameter, adhering to an ulcerating surface. from beneath which came a moderate discharge. The axillary glands were enormously enlarged as were also the supraclavicular, and she was markedly cachectic. She was placed under very complete dietetic and medicinal treatment, and the whole area painted with a 50 percent ichthyol in water, the crust not being disturbed. In a very short time, the discharge ceased, the adherent crust not being disturbed until she passed away peacefully, from exhaustion and pulmonary edema, on September 9, 1914.

On August 5th, it was recorded that the breast had done very well, was soft and movable, and not larger than the other breast, with no discharge; and there had been no pain since a short time after beginning treatment. The axillary glands had diminished three quarters in size, and the supraclavicular glands were much smaller. She never required or took a particle of morphine or any other opiate.

The peace and comfort experienced by this lady during 7 months, with an enormous inoperable cancer and great cachexia when first seen, was certainly very different from the generally conceived and observed course of cancer.

Case 2.—Mrs. Dr. S., aged 85, seen September 16, 1918. After an attack of grip, 2 years previously, she noticed a small lump in the breast, size of a pea, which grew steadily and was treated with x-ray for over a year, and then with a radium tube for 4 hours. There had been a raw surface for several weeks. When first seen, there was a mass, 3 by 4 inches, in the center of the breast, with a raw surface just above the nipple, 1 inch in diameter, with a foul odor. The patient had much stabbing pain.

She was placed upon an absolutely vegetable diet, with acetate of potassium and rumex extract, half an hour before meals, and a calamine and zinc ointment. On December 29, 1918, her physician wrote that she had "gotten along remarkably well." While there was much discomfort and some pain, she was able to go about the house and do much knitting for the soldiers. There was later a good deal of sloughing, but the whole mass had a less angry appearance since starting treatment. She was fairly comfortable, without an opiate, until she collapsed suddenly, in the bath room, after a dressing, and died peacely on September 2, 1919, at 86 years of age. This case was also most satisfactory, as the patient lived nearly a year after first seen, in reasonable comfort about the house, and died rather from old age than from the cancer.

Case 3.—Mrs. L. H. G., aged 68, a frail widow, weighing 80 lbs., first seen November 18, 1920. In June, she noticed the left breast larger than the right, which increased until seen. She had had great tribulation, and really came to me because of an x-ray burn in the right iliac region, which was occasioned by treatment for Bright's disease, a number of years previously. On April 18th, after a funeral of a dear friend, she reecived a blow on the chest from some rough boys, by which she was greatly shaken, and a lump appeared in the left breast, which increased until seen. Her physician sent her to a prominent surgeon who urged an immediate operation, as did her physician. This she declined.

When first seen, there was a hard mass, 2 by 3 inches in diameter, nodular, with a skin node just above the nipple, and considerable axillary adenopathy. In spite of proper diet and internal measures of various kinds, she did not do well, being subjected to great financial and other nerve-racking annoyance, and the breast developed a cauliflower excrescence from which she had many hemorrhages, until she passed away in a sanatorium, May 30, 1922, eighteen months after first seen, and two years after the violent blow on the breast. During this period, she had severe herpes zoster down the right leg to the toes, and, two months before her death, most frightful general pruritus, which was shortly relieved by local treatment. The results were all that could be expected under the continual nervous strain she was under, because of household and financial difficulties. She did not require or take any opiates.

Case 4.—Miss T. E., aged 54, seen first March 9, 1922. Four and a half years previously, there was a small lump in the left breast, from a bruise, which persisted and increased until seen. She had seen many physicians and surgeons, and had had considerable x-ray treatment on the breast and also on the large axillary lump which formed. The left arm was greatly swollen.

When first seen, there was a large, hard mass, three by four inches, beneath the nipple which was retracted, and enormous supra-

clavicular adenopathy and in the neck, with a greatly swollen, hard arm; there was also supraclavicular and axillary adenopathy on the right side. The x-ray showed great involvement of the chest. With such immense lymphatic complications, it was evident that not much could be done. Still, she lived three months and a half, and passed away peacefully in sleep, on June 23d. Although she suffered considerably in the swollen arm, her troubles were relieved largely by the free use of aspirin, and she took no opiate. Under full and proper diet and various medication, it seemed at times as if the lymphatic derangement might be overcome. At times, the arm swelling and that of the hand was decidedly less and softer, under continual painting with ichthyol and water, half and half. Some of the glands were smaller, softer, and more movable; but lung involvement was too much for her. She went home to another city, and the travel exhausted her and she died five days later.

Case 5.—Miss V. B. A., aged 46, was first seen May 14, 1918. Two years previously, she noticed irritation about the nipple of the right breast, and a few months later it began to draw in, a small mass forming just below. This increased slowly but gave little trouble until about three months previous to her visit, when there was pain. Three weeks ago, the arm became swollen and very painful down to the fingers. With such a history, one was hardly prepared for the condition discovered. On examination, the right side, from the sternum to the postaxillary line and downward half-way to the umbilicus, was involved in a very hard, malignant process, a *cancer en cuirasse* which had contracted the right breast to one-sixth its natural size, and the arm was swollen down to the fingers, to one-third greater size than the left, with great pain since two months' treatment with x-ray. There was, moreover, a mass in the left breast, two by three inches in size.

The patient had always been very constipated, with scanty urine and frequent micturition, and it was exceedingly difficult to make any headway with her. As the disease increased, the breast ulcerating, she suffered terribly, could not sleep, was nervous and hysterical, crying and screaming. Later, away from me, I learned that she took morphine every three hours, and died, October 20, 1918, five months after her first visit.

I have seen many cases of *cancer en cuirasse,* but never one developing so rapidly, and so rebellious to all treatment.

Case 6.—Mrs. W. C. L., aged 40, was referred to me by her physician on December 26, 1918. Three months previously, a lump was discovered in the right breast, which had disappeared entirely under my diet ordered by her physician. She had always been a very hearty eater, consuming very much meat. One week before her visit, she noticed a mass in the left breast, which was increasing; she had long been a sufferer from rheumatism and neuritis which also had ceased with the diet and antirheumatic remedies. On February 11, she reported as feeling very well, the lump in the breast softer, the right breast normal. On March 13, it was recorded that she was doing very well, nothing could be found in either breast, the arm pain had ceased, and she had gained in flesh. On April 25, I learned by telephone from her physician that she had just died, very suddenly, from heart failure caused by indigestion. After much correspondence, I finally learned from the County medical examiner that she died of diabetes mellitus, and that there was "no internal evidence of malignant disease found in the viscera." The connection between diabetes and cancer is beginning to be recognized, and I have had several cancer patients who died thus, the disease being undoubtedly aggravated by the diet prescribed for the cancer.

(*To be continued*)

THE SOFIE A. NORDHOFF-JUNG CANCER RESEARCH PRIZE

Dr. Sofie A. Nordhoff-Jung of Washington, District of Columbia, United States of America, has founded an annual prize of five hundred dollars bearing the title of "The Sofie A. Nordhoff-Jung Cancer Research Prize." This prize is destined for the encouragement of researches in the etiology, prevention and treatment of cancer. It will be awarded by a commission, composed of members of the University of Munich, Bavaria, and be granted for the first time in December in the year nineteen hundred and twenty-three. The commission consists of professors Borst, Doederlein and Sauerbruch with Professor von Romberg as chairman. This body is empowered to elect successors. The award will be made as a recognition of the most conspicuous work in the world literature bearing on cancer research, done at a time antecedent to the allotment of the award. Though the prize will not be awarded on a competitive basis, the commission invites all research workers in cancer to submit literature on this subject.

Paranasal Sinuitis

By E. W. GARDNER, Chicago, Illinois

IN presenting this paper, I cannot hope to do more than direct the discussion to a correlated group of pathological phenomena which, I believe, is not accorded the consideration by the general practitioner that its importance warrants.

The medical profession has made great recent advance in the recognition, treatment and surgery of paranasal sinuitis. Even so, our diagnostic instruments are yet very imperfect; our knowledge of sinus pathology and bacteriology is far from complete. Our operative procedures are yet crude, and our medical treatment is more or less empirical. All this, however, is equally true of medicine as a whole. I shall attempt no exposition of theories. I have no new diagnostic instrument to show, no bizarre method of treatment to expound, no operation to present. I wish that I had. As it is, I can merely hope to refresh your memories along this especial line.

Apparently, everything has its place and use. Even fleas and paranasal sinuitis. David Harum said that a certain amount of fleas were good for a dog, for they kept him from brooding over the fact that he was a dog. So, perhaps, with the paranasal sinuitis and mankind. Too often, the sinuses are cesspools of putrefaction and origins of ungodly pain. And a man with a sinuitic headache is a group of loosely correlated cells and impulses bounded on all sides by non-essentials, filled with melancholy memories and morose forebodings, and partaking of the lovable characteristics which distinguished T.N.T. and the late lamented hand grenade. He truly is prevented from brooding over the fact that he is one of the genus homo.

Anatomy of Paranasal Sinuses

The paranasal sinuses comprise the frontals, the ethmoids, the maxillary antrums and the sphenoids. All are directly connected with the nasal cavity by openings, or ostiums.

The sinuses, like the appendix, apparently are residual organs. The antrum of Highmore has its prototype in the amphibian accessory nasal chamber, an olfactory organ. They are supplied by the trifacial nerve, which fact explains the peculiar symptom-complex so often met in this affection. Apparently, irritation of any portion of this nerve can cause pain localization in any other portion, and even can transfer its localization to portions supplied by other nerves.

The anterior ethmoidal cells vary in number from two to eight. They are separated from the posterior ethmoids, a larger group, by a transverse partition of bone. These groups are clinically and anatomically distinct. The upper wall is a dense, thin plate of bone, which is also the floor of the forebrain. The cribriform plate is not covered by cells and, while seldom fractured by intranasal operations, its sieve-like construction permits easy infection of the meninges. The lateral walls are the fragile inner plates of the orbits. Easily fractured, they readily permit passage of infection.

The frontal sinuses vary greatly in size, and are, in reality, ethmoid cells which have pushed up, after birth, into the frontal bone. They often extend backward between the orbit and the forebrain, or laterally around into the temporal region, to an incredible extent. The posterior plate is relatively so very thin, it is remarkable that extension of frontal empyema to the cranial cavity does not occur more often.

The sphenoid, as a small cell, is present at birth and attains adult size at about the age of ten years. Upon the upper wall lie the optic nerves.

There are one and, maybe, several ostiums connecting the nasal cavity with the maxillary antrum. The sinuses are lined with ciliated epithelium. And, that the antrum might the more readily be cleansed of débris by the loyal efforts of this epithelium, nature has located the only exit high up near the eaves, beneath the middle turbinate. But, at that, the antrum is more sinned against than sinning, I believe. For, empyema of the antrum usually is consequent to purulent infection of the ethmoidal group, of the frontal, or of tooth-root end infection. And, if these offenders can be persuaded to throw their garbage elsewhere than into the antrum, the latter usually behaves genteely.

Gleason says that postmortems show 33 percent of subjects to have muco-pus in one or several sinuses. What percentage of sinuitis exists during life, no one can tell. But, it is certain that chronic sinuitis is present in an enormous number of our patients.

The Diagnosis

The *Differential Localization* of paranasal sinuitis, by subjective symptomatology alone,

Read before the North Shore Branch of the Chicago Medical Society, in 1922.

is not easy, for infections of the various sinuses have many symptoms in common, such as malaise, fever, nausea, disturbances of taste or smell, turgescence of the nasal mucous membranes with obstruction to nasal breathing. Headache is common to all; nor is its location always diagnostic.

Antrum infection usually causes unilateral headache or pain centering in the eye.

Ethmoidal infection is more central, between the eyes if of the anterior group; a deeper placed, central pain, which may radiate high into the cranial vault, if of the posterior group. However, the

Sphenoidal headache is in much the same location.

In most cases, stooping over increases these pains. Pressure over the antrum, on the bony roof of the orbit or against the inner canthus of the eye, may or may not reveal sensitive areas in antral, frontal and ethmoidal involvement respectively.

Nasal pus may or may not be visible, owing to the fact that the infection may be non-purulent: or, if purulent, that some factor prevents its discharge.

The antrum, anterior ethmoids and frontal drain into the middle meatus, beneath the middle turbinate. The posterior ethmoids and the sphenoid drain post-nasally.

Nasal Polyps apparently never are present except in cases of chronic pus discharge. They are the result, not the cause, of ethmoidal or of frontal infections. And chronic infection, with pus, may so alter the character of the mucous membrane in any sinus as to produce polypoid degeneration.

A perversion, or a loss, of the sense of smell may follow on chronic sinuitis, especially ethmoidal.

Sinuitis of the *Antrum of Highmore,* may be purulent or non-purulent, acute or chronic. Its *etiology* may be an acute tonsillitis, especially; also nasal cold, influenza, scarlet fever, measles, etc. Watery irrigations of the nose in acute coryza often infect the sinuses as well as the inner ears. Oily solutions apparently do not do this. Also, as said, the sinuitis may be secondary to leaking root canals of the first and second superior molars, and to drainage infection from the ethmoids or frontals. Contrariwise, a turgescent or polypoid or deflected middle turbinate may occlude the ostium, with the characteristic symptoms of a non-suppurative antritis.

Pathology and Symptoms

The *pathological* changes are similar in all the sinuses: The mucous membrane becomes swollen, edematous, with seromucous exudate which may or may not become infected. In old cases, the cavities may be filled with polypoid mucous membrane and a cheesy, foul pus, with bone necrosis which may be very extensive, involving contiguous structures e. g., the orbit, the brain or the optic nerves.

The acute process in the antrum is usually accompanied by pain in and over the corresponding eye. Not always is there pain directly referable to the antral region. As in frontal sinuitis, this pain is apt to begin in the morning and to disappear in the afternoon. There may or may not be unilateral pus discharge, depending on whether or not the case is a purulent one: and whether or not (if purulent) there is a way of escape for the pus through the nose. There may be sensitiveness of the upper teeth when bitten on. With free nasal discharge, there seldom is much pain. Chronicity is common, with intervals between the acute exacerbations. This chronic state produces the now well-known symptoms of focal infection: neuritis, headaches, anemia and varying degrees of red-cell disorganization; low weight, poor vitality and resistance; perhaps daily fluctuations of temperature simulating tuberculosis: bad breath, acute arthritis, interstitial disturbances in the kidneys, the blood vessels and the heart.

Pus under the middle turbinate, wiped away and reappearing within 10 minutes, probably is from the antrum. Transillumination of the antrum by means of a small lamp within the mouth, with lips closed, is almost infallible. If cloudy, pus is probably present, although thickened mucous membrane shows dark even in the absence of pus. An x-ray is a positive diagnostic—if positive. But, a negative antrum is not always free of pus. The antrum may be washed through the natural ostium, after cocainization; or, it may be punctured through the middle or inferior meatus and washed, first making sure that the ostium is open. Owing to the level to which the orbit sometimes descends, puncture through the middle meatus may be dangerous; for, puncture (or even a scratch) of the orbital floor is almost certain to produce orbital abscess. The inferior meatus usually may be punctured readily and irrigation done with perfect safety—If air is not blown into the antrum. Many men are using air under pressure in the antrum for diagnostic or drying purposes, but the appalling list of fatalities from air emboli assuredly should discourage its use.

A short trocar should be used, to preclude danger of crossing the cavity of a small antrum and wounding the opposite wall or the orbit.

A painful antrum need not show macroscopic pus in the washing to bring a very real sense of relief to the patient. These apparently fruitless washings, if cultured, usually will reveal a hemolytic streptococcus or a hemolytic staphylococcus—the latter being a rather new discovery in the bacteriology of sinus infections, I believe.

Acute antra may entirely recover, of course; but many become chronic, with acute recurrences, which do not resolve without operation.

As to Treatment

The *treatment* is drainage and ventilation. Antiseptic measures apparently are not especially valuable. In the acute antra, the turbinates and mucous membranes may be shrunk by a spray of 1-percent cocaine with or without adrenalin 1/10,000, or cocaine (4%) may be applied on cotton. Silvol (or argyrol) is popular. Its usefulness may be moot, but its psychological impression is lasting if it drips on the clothing; and its presence on the upper lip does add a certain pharmaceutical dignity.

After shrinking, suction is used by many. Other men of equal experience do not use negative pressure but irrigate their sinus cases at any stage. The relief to the patient is usually most pronounced.

At home, the patient may use the adrenalin spray, with or without the 1-percent cocaine; also, local heat. Internally, the salicylates in generous doses are useful. Don't be stingy with your anodynes.

For the *chronic antrum,* various operations have been devised. The old one, now largely obsolete, secured drainage through the cavity of an extracted tooth. In the presence of an infecting tooth, this method may yet be used; but, the case probably also will require the method more commonly used wherein a large opening is made into the antrum through the lateral nasal wall in the inferior meatus, with or without sacrifice of the anterior end of the inferior turbinate. Daily washings through this opening are very easy and facilitate recovery.

In the presence of polyps and greatly thickened mucous membrane, a radical operation may be necessary wherein the anterior antral wall is removed, the antral contents are curetted out, and a large opening is made in the lateral nasal wall of the inferior meatus.

Frontal Sinuitis

Frontal sinuitis may be the end result of the systemic infections already mentioned. It may be suppurative or non-suppurative. It may result from closure of the frontal duct by deflected septum, deflected or turgescent middle turbinate, by mucocele, neoplasms, foreign bodies, syphilis, tuberculosis, etc. Having a dependent ostium, empyema of the frontal is less common than in the antrum, although infection probably is more frequent.

The *symptoms* are much like those of antrum infection. The headache is perhaps higher, and the orbital roof may be tender. The thinness of the posterior wall of the frontal probably accounts for the frequency of dizziness, nausea, or amnesia-like mental depressions, probably meningitic in origin. Eye involvement may show as lachrymation, lid edema, conjunctivitis, perhaps accommodation disordered to the point of pseudo-presbyopia.

Diagnosis by transillumination is difficult. X-ray pictures, while rich in anatomical data, are often pathologically fallible.

Treatment is identical with that of the antrum affection. Irrigation through the frontal duct can be done unless prevented by anatomical deformities, which deformities should be corrected to permit drainage and ventilation.

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Sluder, of St. Louis, describes a condition wherein, he says, there is pain in the frontal, without infection, with negative pressure, relieved by ventilation. Other men ascribe this frontal pain to infected swollen membranes, causing pain from pressure, and relieved by the same procedure of shrinking or anatomical removal used in relief of Sluder's negative pressure. I don't know which is right. And the patient doesn't care. So long as you relieve him of that very real pain, he should worry about positive or negative pressures.

Chronic Frontal Empyema

In *chronic frontal empyema,* headache is almost constant. Pus with or without odor is exuded more or less constantly, also. Necrosis of the bony walls is not infrequent, and intra- or extradural abscesses are not uncommon. Intranasal operations to secure drainage are advisable; but, in the presence of polyps, or of heavy, degenerated mucous-membrane linings and bony necrosis, the radical external operation may be required. And these, too often, are followed, even after a lapse of many

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Instead of cocaine, we suggest the use of butyn, which is a virtually perfect local anesthetic and is far safer than is cocaine.—Ed.

years, by a progressive, and fatal, osteomyelitis of the frontal bone.

Ethmoid Sinuitis

The *ethmoids* are the Reds of the sinus family. Not content with acquiring infection at every opportunity, they insist on infecting all the other sinuses, if they can. Their cells comprise much more space than is generally appreciated. An acute cold usually becomes an acute ethmoiditis, with or without pus formation. This acute ethmoiditis is quite apt to become a chronic one, perhaps with hyperplasia and polyps. And, this evil work may be carried into the middle turbinates, so that they become boggy, spongy, polypoid masses unfitted to serve as furniture in any proper nose. May I emphasize that the presence of polypoid tissue, visible in the nasal cavity, almost certainly presupposes a chronic purulent sinuitis, usually anterior ethmoidal. Chronic suppuration is often accompanied by necrosis of the intercellular walls. Extension of this necrosis may involve the thin orbital plate and produce orbital infection. Or it may involve the anterior cranial cavity, causing an acute meningitis; or a chronic meningitis or a chronic epidural abscess, which an intranasal operation may light up.

In *chronic hyperplastic ethmoiditis,* the septum may be pinched between the two swollen middle turbinates, with production of headaches, reflex skin rashes on the nose or face, tinnitus, asthenopia or other eye disturbances. In the subacute chronic suppuration, there is thick, tenacious pus, difficult to blow from the nose. In this stage, there may be pronounced asthma or cough, which disappears on drainage of the ethmoids. There may be a sense of fullness at the root of the nose, with tenderness on pressure in the inner canthi of the eyes.

In the *acute* attack, all symptoms are exaggerated. Nasal blockage, from swollen middle turbinates and ethmoidal cells, is extreme. This produces intense headache. The pus, if blocked below, may be forced upward, backward or laterally, leaking through the cribriform plate into the forebrain with involvement of the meninges, or into the cavernous sinus with thrombosis following, or into the orbital cavity with formation of abscess.

As with all the sinuses, we endeavor to secure drainage and ventilation. The adrenalin and cocaine sprays mentioned are useful but hardly curative. A polypoid or degenerated middle turbinate must be removed; but a healthy turbinate should not be sacrificed if straightening a deviated septum by submucous resection will suffice. The ethmoidal cells should be opened, but their complete exenteration seldom is necessary and modern nasal surgery conserves all tissue possible. Besides, this operation is far from devoid of danger.

Sphenoidal Sinuitis

Sphenoidal sinuitis is similar in etiology, symptoms, pathology and treatment to the other types. The ostium, set one-half or two-thirds of the way up its anterior wall, usually is sufficiently open to afford drainage, and the sphenoidal sinuitis commonly resolves spontaneously. Should it not, and if its empyema is diagnosed by x-ray, by posterior rhinoscopy or by washing, the anterior wall may be removed intranasally by hook, punch or forceps, with or without preliminary middle-turbinectomy or of posterior ethmoidectomy.

To irrigate the sphenoid is difficult, but possible. The ostium is obscured by the posterior end of the middle turbinate. Shrinking this may enable one to see the ostium. Or, it may be found by direction. Postnasal pus is difficult to see but may be viewed by the throat mirror or the pharyngoscope or the nasopharyngoscope.

Importance of Early Treatment

Few of us realize at what early age sinuitis can arise. Dean, of Iowa City, one of our foremost investigators, reports cases of streptococcic infection, with operation, in infants of eight months. Recently, I saw an infant, six weeks old, with marked proptosis of one eye and a postorbital abscess which ruptured spontaneously. This infant's history warrants a diagnosis of acute ethmoiditis, with leakage into the orbit, as the probable cause of the abscess.

Sinuitis in young children is almost invariably undiagnosed. Parents, and physicians as well, are prone to consider a chronic purulent nasal discharge as more or less part of normal childhood. And thus a chronicity is established which may last not only for 5 years or 10, but for 20 years or 30 and more. Do not underestimate the chronicity of these infections.

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Briefly to recapitulate:

The sphenoid sinus is present at birth; and, between 3 and 10 years, acquires almost adult size.

The frontal sinuses, while not present at birth, are evolved by ethmoidal-cell invasion of the frontal bone as early as the end of the first year. Killian reports operating on the frontal sinuses of an infant 15 months old.

The antrum may be pathologically active at birth. Its adult size is reached at 15 or 18

years of age. In early childhood, the antral floor is on a level higher than that of the nasal floor. Later, the level of the antral floor is much below that of the nose. The antrum has been infected, opened and drained early in infancy.

The ethmoid sinuses are present at birth. And suppurative ethmoiditis, with its sometimes tragic sequences, may occur early in infancy.

In closing, may I say:

The symptomatology of focal infections has been discussed in season and out of season. Indeed, focal infections have been given so much publicity as to bring the subject almost into ridicule. Nevertheless, the recognition of focal infections is one of the great forward strides in medicine. And I plead for greater consideration of the paranasal sinuses in the search for the factors underlying these cases of obscure focal infection. No doubt, not all chronic, virulent or suppurative sinuitis can, as yet, be diagnosed; for, our methods of diagnosis lack much in precision. But, a careful history, nasal examination, transillumination, x-ray picture, blood examination, washing of the sinuses with culturing of the washings, will give us many valuable data. And the surgical results in these cases usually are so easily obtained, so satisfactory, and generally so permanent, as to warrant the utmost consideration.

The Principles of the Care of Surgical Patients

By GUSTAVUS M. BLECH, Chicago, Illinois

(*Continued from April issue, page 258*)

Consider Contraindications to Surgery

As this essay is to outline the principles of surgical care and does not pretend to replace textbooks and monographs, but rather aims to cause the reader to do his own thinking, we need not schoolmaster the reader by cautioning him that diabetics and nephritics make poor surgical risks and that, when the urine shows albumin or sugar, further studies of the cases are imperatively indicated, and all operations of a facultative character must be postponed until these elements of risk have been removed or at least reduced to a minimum.

All this is so elementary that the formulation of one dictum would cover this and similar defects.

A hospital having such a "standing rule" would merely betray lack of confidence in the attending staff.

We think it hardly necessary to do more than point out that, in the event certain defects are found, these should be remedied before operation; otherwise, the time spent on general and special examinations of surgical patients would be wasted.

To illustrate, a patient has unquestionably gall-stones. A cholecystostomy under general anesthesia is a rather risky operation. The particular patient has some carious teeth and a chronic bronchitis. Does it require the wisdom of a sage to reason that the teeth should be filled or extracted, as a reliable dentist may direct, and that all known measures (expectorants, inhalants, fresh air, etc.), calculated to cure or benefit chronic bronchitis, should be instituted for some time before operation? We believe not; and this applies to all other defects outside of the surgical disease or diseases for which relief is sought.

The main thing is, that we are guarded against pitfalls. Family and past histories must be elicited. When a patient is unable or unwilling to answer questions, the information must be obtained from friends or relatives.

These are purely technical points. Other problems of equal importance present themselves which require our constant attention.

The Personal Equation

The very personality of the surgeon is a subtle factor, not easily classified. Some classic writer, whose name we do not recall, has aptly said that the beard of the physician wins half the battle. While modern surgeons do not wear beards, they have attributes which affect differently various patients.

Is it not a common, every-day experience that some patients take the verdict of a major operation with sang-froid, enter the hospital and greet their surgeon in the operating room with no more ado than they would extend courtesies at some social function, while others at the mere thought of a hospital, collapse as if a calamity was about to befall them?

With the former class, surgeons have no trouble; but, with the latter, a good deal of tact is necessary, and tact is something that

cannot be taught in textbooks or essays.

Enter the room of the cowardly, nervous or irritable patient, and the very mode of approach, of greeting, of a chance remark or mannerism is studied by these people as if your very lip muscle betrayed some deep and mysterious meaning in your soul. A harmless jest is interpreted as masking the surgeon's apprehension for the outcome of the ordeal or as levity betraying lack of sympathy.

There are distinguished surgeons who are blunt and they succeed with their rather rough mannerisms admirably, when the same mannerisms in a younger man would probably spell loss of clientèle. Some succeed with a sympathetic expression which, in others, would cause a feeling of lack of confidence in one's own ability.

In presenting these remarks, we feel that we should have omitted them entirely or else offer some tangible suggestion of what is proper under such circumstances.

We, ourselves, have never read a book on etiquette, and we also feel that, because we happen to be surgeons, we do not have to be actors. Stage settings, melodramatics, artistic hair, flowing ties, artificial mannerisms, speech or action calculated to win favors with or plaudits of his clientèle, have always filled us with contempt for the man if not the surgeon, and we feel that the man, who has the aspiration and courage to tread the hard road of a surgeon, has too dignified a calling to have to resort to artifices of any kind. Cognizant of the dignity of his profession and of his own personality, he need be but his natural self, and respect for and confidence in him, based as they are on real merit and worth, will come without quackish bait.

It is a thousand times better to lose occasionally a hysterical patient who "falls" for a charlatan that "impresses" her, than to lose your self-respect.

Our observation has been, that sincere men enter the sick room with a friendly greeting, assuring their patients by their demeanor and conversation, that they neither "fuss" or offend, that they give advice and answer questions in a straightforward manner, and that all strictly professional orders are left with the nurse or intern, beyond earshot of their charges.

Special cases, special conditions require special precautionary measures, and these will be grouped for a few hints as the conclusion.

Preparing the Patient

Among the "standing rules" of many hospitals, one, in our opinion, deserves special mention, and that is, the rage to clean out the intestinal tract in the belief that a thoroughly empty bowel is in a physiologic state. The late Byron Robinson, of Chicago, years ago, in his rather blunt manner, once deliberately accused us of heresy when we disputed this, his particular pet theory. Now, *exempla docent.* In the many years of our work, we have had ample opportunity to study the effects of laparotomy on those whose bowels had been "cleaned out" by cholagogs and laxatives, and those who were given a simple soap-suds enema the evening preceding operation, and we have found that the latter have less trouble with "gas pains" than the former. The physiologic condition of the jejunum is not physiologic for the ileum—at least not for living, food-consuming animals.

Likewise have we abandoned the prolonged preparatory measures of the operative area. The idea that an application of a dressing, moist with bichloride of mercury, for many hours, will destroy the bacteria on the skin without irritating the epidermis is fallacious. A simple bath as a soothing hygienic measure is indicated in all patients. If a patient is nervous, we do not allow even shaving except when the patient is on the operating table.

It is only common sense to assume that the hospital, try as all concerned may to infuse cheer, is something unaccustomed, something depressing. Only the hope of restoration of health makes normal people seek its temporary shelter. The less "fuss and feathers" are displayed, the better the psychic effect.

Rest, appropriate diet, a bath, and such corrections of defects as are essential to lessen operative risks comprise the principal precautionary measure during the preoperative period.

We are accustomed to lay some stress on "gymnastic" respirations. We advise the patients that, to breathe deeply by command: "Take a deep breath—in—out!", will lessen the aftereffects of the anesthesia, and, as we shall soon see, justly so.

3. The Operative Care

We now enter the sanctum sanctorum. Only the priests are authorized to enter and function here, and they must remove their shoes; for, the ground they tread is holy—holy because here is the altar on which is sealed the fate of sufferers!

Let the patient about to undergo a serious ordeal come with a mind free from worry. The hypodermic syringe, laden with an opiate and atropine or hyoscine, and used once or twice within an hour before operation, in-

sures tranquillity, peace of mind and a state of semiconsciousness, the borderland between hypnosis and wakefulness. Anything beyond that is not safe.

Use local anesthesia whenever possible.

Inhalation anesthesia requires a master hand. We cannot give technics, nor do we care to express an opinion whether a specially trained anesthetist or a nurse or student or intern should administer the anesthetic; for, in the vast majority of cases, either proves safe. But, there are patients with inflammatory diseases of the chest, with cardiac disease, on whom the surgeon, in spite of all preparative medication, looks with apprehension lest a technically perfect operation be undone by a postoperative pneumonia or cardiac failure. Who will not welcome in such anxious moments the master specialist, who can give just enough ether to produce surgical anethesia without overbalancing the risk? For, after all, the relatives look up to the surgeon as the arbiter between success and failure, and the "division of responsibility" is an empty phrase which the laity do not understand.

The problem is one important enough to merit a small monograph. We can do here no better than to quote the instructions given our assistants charged with the administration of anesthetics, as they are the ones that supervise the transport of the patients from their rooms to the operating table.

Rules for Safe Anesthesia

1.—Avoid chilling of the patient during transport.

2.—The operating room should have a uniform temperature of 80°F. Too cold a room produces danger of shock and respiratory troubles. Too hot a room stifles everybody, patient as well as personnel.

3.—Remember that ether is a cardiac stimulant and a respiratory irritant. Always begin with ether. Chloroform is a heart depressant, and should be given in quantities not to exceed fifteen drops, and only after ether has been administered for some time, to augment the ether, drop by drop with caution!

4.—Remember that the patient is partially narcotized by opiates and needs very little anesthetics. Once surgical anesthesia has been attained, it can be maintained by giving drop by drop very slowly.

5.—Give ether drop by drop from a height of one foot, so that the drops become broken up on the mask. This dilutes it with air. Air is the best diluent of anesthetics.

6.—Never allow more than one drop per second to fall on the mask. More than that is pouring—pouring is criminal.

7.—No one is allowed to talk in a whisper. If there is anything wrong, say so clearly, and measures for resuscitation will be instituted without delay.

8.—Never give an anesthetic after the first stitch of the peritoneum is in or when suturing of a non-abdominal wound begins, even if no such order is given you.

9.—Be prepared to give hypodermics of camphor oil, strophanthine, and see that oxygen is ready for administration.

10.—Keep constant watch on pulse and respiration. Your anesthesia is perfect only when both proceed virtually undisturbed and when the patient is awakening the moment the dressings are applied.

If these ten commandments are carried out intelligently, the surgeon need not fear sudden death on the table, nor postoperative complications, under ordinary circumstances.

The Operation

The operation itself is a matter of *dissection*. Sharp knives, gentle touch or strokes, blunt dissection with gauze over the fingers, perfect control of hemorrhage and working under the control of the eye, are cardinal rules. The surgeon who pulls, tears and lifts tissues in the sweat of his brow shows decided qualifications as a stonemason or butcher.

Suturing means fixation of tissues to a degree of perfect apposition and not strangling of the tissues. Leave strangling of tissues to executioners—they are at least servants of the law.

Tie blood vessels firmly but not enough to crush the intima. If there is danger of slipping, better suture. Never expose viscera, but cover them with gauze compresses wrung out in warm normal saline solution and have a nurse pour a little of the same fluid from time to time over the compress.

Operate rapidly but do not hurry. Hold no clinics when the patients are poor risks. In suppuration of the abdomen, do not make radical operations; get in fast, drain, and get out as fast as you know how.

Do not do the impossible. Do not guess.

Asepsis—no time to discuss it, A.D. 1923. If you are not master of it, if it is not bred into your very marrow, give up surgery and peddle shoestrings. It is safer—less nerve-racking.

Examine your patient before you take off your gown. Note condition.

In abdominal operations, perform gastric lavage with warm solution of bicarbonate of soda, before the patient is taken from the

operating room.

See to it yourself that the patient is well protected against chilling before being transported from the operating room to the bed.

Simple Rules

If the preoperative care has been properly carried out and if the operation has been performed *lege artis,* the whole problem of postoperative care is simplicity itself and can be encompassed in the following rules:

1.—Guard the patient against chilling on the way from the operating room to the bed.

2.—Have the bed warmed in any desired or practical manner, but avoid contact of hot water bottles or bags with the patient's body.

3.—Command the patient to breathe deeply in and out a few times, a few minutes after having been placed in bed, and have the nurse repeat the breathing exercise periodically.

4.—Give nothing by mouth for the first 24 hours, except for a few sips of cold water. If thirst is excessive, order normal saline enemata.

5.—Give liquid diet for one or more days, beginning with the day following the operation.

6.—Secure a bowel movement, by calomel in fractional doses, on the third day. A satisfactory bowel movement is the signal for an increase in diet.

7.—Have the patient remain in the recumbent posture as little as possible.

8.—Discharge the patient home as early as possible.

9.—Give detailed instructions before discharge, if necessary, to resume normal bodily functions, as indicated.

10.—Final examination (check) at some later date after discharge from hospital.

Comment

Ad 1.—The mistakes, frequently committed by inexperienced or careless interns, in rushing the patient from the operating table to the ward or private room, without any other precaution than throwing a blanket over the body in a haphazard manner, are followed by chilling. This is due partly to the inequality of the temperature of the operating room and that of the halls, elevator or ward (private room), partly to the fact that most patients are covered with perspiration when the operation has been concluded. An ever-watchful surgeon will not only see to it that his patient's condition is satisfactory (that is to say, that the color of the patient's face is good, the pulse regular, full and not excessively accelerated, the breathing regular and deep and the pupils properly contracted), but also that a nurse is thoroughly drying the surface of the body and that the blanket covers the entire body up to the neck. (It is not an uncommon occurrence especially in poorly disciplined institutions, to see the patients' bare feet sticking out from under the blanket.)

Ad 2.—Beds should be warmed while the patient is in the operating room and not the moment of return to the room. A properly warmed bed will render the placing of hot water bottles against the patient's body unnecessary; a practice, which has often led to unpleasant consequences and even malpractice suits, when burns occur either from bad hot water bottles or from spilling of the hot water (defective corks, bursting glass, defective caps, etc.). While a well-conducted operation should see the patient virtually awake when the dressings are being applied on the operating table, the patient remains sufficiently narcotized for some time after to be unable to give warning when a burn from one of the causes enumerated is imminent.

Ad 3.—If the patient has been drilled, a few times before operation, to inhale and exhale deeply before operation, a loud command given immediately after his return to bed will be obeyed invariably, even though the patient be still under the influence of the anesthetic. These breathing exercises are now of tremendous value for an uneventful convalescence. The deep inhalations bring a supply of fresh air to the lungs and the exhalations throw off ether vapors accumulated in the bronchi and lungs, and, to a great extent increase the circulatory power and guard against embolism. It is well to repeat these exercises for a few minutes every hour, at least for the remainder of the day of operation.

Ad 4.—The fear of giving water by mouth, after operations performed under general anesthesia is, in the author's opinion, greatly exaggerated through tradition not based on scientific facts. The sole object seems to be, to keep the stomach and abdominal viscera in as perfect a state of rest as can be obtained by the withholding of food and drink, especially in gastrointestinal operations. In this class of cases, the precaution is a wise one in the interest of healing of peritoneal wounds; but, in all other operations, the worst that can happen is, that too much of the water that has not been absorbed through the stomach is vomited up. That can be looked upon as a *quasi* gastric lavage and may even prove useful.

Ad 5.—In non-abdominal operations, this precaution may be modified, so that patients

may be given semi-solid food the day or, at most, two days following the operation.

Ad 6.—The method here suggested is of little importance, the result being the thing that counts. While, as a general proposition, calomel may be useful—at least on purely theoretic ground—as a cholagog, there is a small number of individuals who have an idiosyncrasy in that they become salivated and suffer from intense stomatitis after the administration of mercurial drugs. In a seriously weakened individual, such a complication would prove very annoying. Perhaps it is a good idea to inquire of every patient whether he has ever taken calomel before and, if so, with what result.

The author remembers at least three patients who suffered intensely from mercurial stomatitis after the administration of a few doses of calomel of 1/10 grain each.

Likewise, he encountered, years since, a patient suffering from spasm of the sphincter ani (a woman) who became almost a raving maniac from pain after the administration of ¼ grain of morphine sulphate, hypodermatically, requiring large doses of bromides per rectum to restore her mental equilibrium and rid her of the pain in the anus.

These are peculiarities which no one can foresee and, when met, are managed according to circumstances.

Ad 7.—Uncomplicated convalescence should be shortened as much as possible. The tendency, today, with many operators, is to overdo things in the direction of aggressiveness. The notion that patients have to lie in bed a long time to insure security of union of the operative wounds is, to a great extent, erroneous, but it is no less an error to allow laparotomized patients to leave the bed on the second or even the third day. Here, as elsewhere, the mean between the two extremes will come nearest the ideal.

Postoperative herniæ are *not* developed because patients do not lie in one position for a week, but because the wounds have not been properly sutured, or else because infection has weakened the lines of suture. The tendency to suture wounds "for keeps" betrays poor judgment. One of the greatest boons that can come to surgery will be a device that will make all suturing of wounds unnecessary, because such a device will insure apposition of the wound surfaces and not strangulation of the tissues within the sutures.

As a matter of fact, the "tossing" patient, the *"enfant terrible"* of the "trained (?) nurse," is the fellow who gets well, while the nice and obedient granddad, who lies as still as a mouse, is lucky if he escapes a hypostatic pneumonia.

(*To be continued.*)

Acute Otitis Media in Children

Its Relation to Diseased Adenoids and Tonsils

By HUNTER L. GREGORY, Stockton, California

OTITIS media is an acute affection very frequently found in young children. Although its causal factor, the invasion of the middle-ear by some bacterial organism, is well understood, it is often difficult, and frequently impossible, to demonstrate just how the possibility of infection came about. Most commonly, it appears that the organism gained entrance to the middle ear by way of the eustachian tube, its origin being probably somewhere in the nasopharyngeal tract. It is also well recognized that acute otitis media may be an accompaniment of the exanthematous diseases (scarlet fever, measles, diphtheria; less frequently, typhoid fever) and constitutes a very serious and much-dreaded complication.

In all these cases, early aural examination is very important and by no means always an easy matter to those not constantly practicing it. The choice of specula, proper handling of the ear, and correct technic of irrigation of the external auditory canal are the essentials to be considered before examination. When I speak of the proper handling of the ear, I mean that, very often, the auricle is improperly drawn upward, backward and outward, thus shutting from view the major portion of the lumen of the canal. If, instead, we draw the auricle gently downward and backward, we open the canal and can obtain a good view of the deeper structures. In many cases, the meatus will be found to be lined with cerumen, and, when the speculum is inserted, this wax is forced against the drum, causing considerable pain to the patient and obstructing the view of the tympanic membrane.

Those of us who have had occasion to inspect the ear-drum when there is possibility of middle-ear disease have often seen what appeared to be a perfectly healthy drum show-

ing no signs of congestion. But, when we gently brush the surface of the drum membrane with a cotton-tipped applicator, we immediately see a bulging and angry-looking surface. This is due to the pressure from behind which causes exfoliation of the external epithelial layer. But, on careless inspection, the surface so affected can easily be mistaken for a drum membrane free from involvement.

We frequently find a patient complaining of severe earache, and examination will reveal a congested drum but no bulging nor fullness. This pain is no doubt due to the involvement of the connective tissue fold in the membranous canal. In such cases, early incision of the drum is advisable, as this will prevent further involvement of the middle-ear.

Earache is Serious

G. Hudson-Maukuen thinks that earache as a symptom has not received the attention it deserves, and this attitude on the part of the medical profession, perhaps more than anything else, has led the laity to regard pain in the ear as of comparatively little consequence. It is no uncommon thing to hear the remark, "It's only an earache and it will soon be well," whereas the real truth is that "it" is generally far more than an earache, and the neglect of the condition of which the pain is a manifestation often results in a much impaired organ of hearing, and sometimes the loss of life itself.

It is plainly our duty, whenever opportunity offers, to instruct the laity as to the seriousness of this symptom, and the urgent necessity of seeking immediate medical aid at the first manifestation of ear involvement. A thorough examination in all of these cases is very important in order to ascertain the cause of the trouble. Any of the following conditions may give rise to earache: Foreign bodies in the canal, boils or pressure in the middle ear from any cause; and we may also have reflex pain from diseased conditions in the nasopharynx and the tonsils; from hypertrophied adenoid tissue; or from infected teeth or diseased intranasal conditions.

Earache From Focal Infection

In the clinics of this city, I have occasion to examine a good many children who are sent in by teachers who have been instructed along these lines, and I invariably find that local causes are responsible for impaired hearing. It is not uncommon to find cases of otitis media followed by convulsions which can be readily attributed to enlargement of the pharyngeal tonsil.

A short time ago, I had occasion to see a child of five who had a double suppurative otitis media with convulsions. On examination, I found large infected tonsils and adenoids blocking the entire postnasal passage. The tonsils and adenoids were removed and, in a short time, the ear condition cleared up. Since then, there has been no history of convulsions. A boy, aged nine, was referred to me with the history of being a mouth-breather and having from three to four convulsions every week. As soon as the tonsils and adenoids were removed, breathing became normal and the convulsions ceased.

Several cases have been reported by G. S. Duntley showing the results of adenoidectomy in cases of otitis media. One patient was a child, aged eleven months, who had been treated for three weeks for iridocyclitis and otitis media, and was referred to the author with a corneal ulcer of the right eye. After eight days' treatment with no benefit, an adenoid mass was removed, followed by rapid recovery from both, eye and ear conditions. Another patient, aged twenty-two months, had a double otitis media, with convulsions every four hours. After the adenoids were removed, the patient had but one convulsion and made a rapid recovery.

The third case was that of a child of eleven months, with recurring otitis media, both acute and suppurative; complete recovery followed adenoidectomy.

Ear Complications of General Infections

"The acute illnesses of the ear," says Harold Hays, "are sufficiently appreciated at the present time for them to be taken care of properly. Such acute ear conditions may have many causative factors, the chief among which are repeated colds in the head (often associated with diseased tonsils and adenoids), and the ear infections which are associated with the exanthematous diseases, particularly measles, scarlet fever and diphtheria. Other diseases, such as syphilis and meningitis, bring on a deafness which is readily appreciated and which forms an almost hopeless problem. But, unfortunately, in the majority of cases of acute middle ear disease, the ears receive little or no attention after the acute process has subsided. This is so whether the patient has been treated in a hospital or at home. And it is just at this time that a great deal can be done to restore the hearing."

Although no definite statistics are at hand, it is presumable that there is at least a temporary defect in hearing in the majority of children who have had an acute ear process, whether associated with an infectious disease

or not. The hearing can be readily tested with a watch which, if audition is normal, should be heard when held at a distance of at least three feet from the ears. If the hearing is found to be below normal, the child should be at once referred to a competent aurist. The blame for this neglect often rests on the parent, but sometimes it is due to the harmful advice of the practitioner who says that the ear trouble will soon pass away or, still worse, that nothing can be done for it.

In the routine treatment of these cases, the bowels should be opened by means of small doses of calomel followed by castor oil or a saline. Acetylsalicylic acid, salol or sodium salicylate are recommended to produce diaphoresis. Warm boric-acid irrigations every two hours and the application of hot water bags to the ear will be found very efficacious. The drum should be incised as soon as bulging is apparent, especially if fever has persisted for more than twelve hours. Before incision, the ear should be irrigated with a 1:5000 bichloride solution, and an instillation of equal parts of menthol, carbolic and cocaine crystals[1] (which have been rubbed together until a syrupy fluid is formed) employed. This is applied warm and, in most cases, anesthesia will be produced in twenty minutes. I have found it more satisfactory when dealing with children to anesthetize by means of light inhalations of gas. After the drum is incised, the ear should be irrigated every one or two hours with a warm saline solution, boric acid or bichloride, 1:5000; especially the latter, if the infection is a virulent one. Politzer recommends daily inflation of the middle ear by means of the soft rubber bag which he designed for this purpose, a process which has received the name of politzerization, in honor of its originator. Politzerization should be begun on the third or fifth day after the discharge has made its appearance, the nares and pharynx being cleaned each time with normal saline solution.

[1]We venture to suggest procaine or butyn in place of cocaine, as being less dangerous.—Ed.

If the discharge is thick and tenacious, the meatus should be syringed with a warm, sterile solution of sodium bicarbonate, aided by suction with Siegel's otoscope and cautious inflation. After the acute symptoms have subsided, continue to irrigate the meatus several times a day. A cotton-wound probe should be used gently, but repeatedly, at each sitting. If a 5-percent aqueous solution of hydrogen peroxide is used to break up the secretions, they can be wiped away more readily.

Following an acute otitis media, careful hearing tests should be made from time to time until the record shows practically perfect hearing. Recovery is never considered complete until the absence of exudate in the eustachian tube has been clearly demonstrated by aural auscultation.

Conclusions

A close inspection of the drum for bulging, congestion or fullness should be made in every case of "earache" and, with the first symptoms, heat and warm irrigations should be applied.

If the symptoms are not relieved in from twelve to eighteen hours, we should resort to surgical intervention; that is, incision of the drum, and never, under any condition, should the patient be allowed to suffer for more than thirty-six hours, as he is thereby exposed to needless complications.

In all diseases of the nasopharynx, especial precautions should be taken against tubal infection.

In every case of otitis media in childhood, we should carefully examine the nose and throat for evidences of hypertrophy and disease of tonsils and adenoids, and all tissues capable of producing pathologic symptoms should be removed.

Careful hearing tests and politzerization should be applied at regular intervals for some time after all cessation of the discharge.

REFERENCES

Duntley, G. S.: The "Evil" of Adenoids in Infants. *Illinois M. J.*, 42:280; October, 1922.

Hays, Harold: Deaf Ears in Children. *Med. Times*, 50:268, October, 1922.

WE accuse other people of those acts which our unconscious wants most to perform. It is never wise to rave against the special faults of others, for we give ourselves away.—Ella Barker, in "Fielding Sargent."

The Pseudo-Medical Cults

Some Problems Confronting the Medical Profession

By MALFORD W. THEWLIS, New York City

THE question of the various new healing professions, which have sprung up during the past decade and thrive on treating disease without being properly equipped to cope with it, has brought before physicians a problem that is not easy to solve. Each of these bodies is conducting an organized campaign against the medical profession and asserts that physicians are unnecessary, the majority claiming that "spinal adjustment" will cure all ailments. They advertise boldly, the chiropractors even broadcasting radio messages, heralding their cures.

The physician is obliged to face the question because many of his patients are also subjects of these "paths," especially those belonging to the idle classes. Recently, a woman presented herself at a clinic for an x-ray examination. She said that she could not afford to pay for it and the social service began an investigation, finding that she really was unable to pay. She was x-rayed and a diagnosis of Pott's disease was made. She then explained to the physician why she could not pay for the x-ray. She had been to a chiropractor who had removed the "clicks" from her spine and, after having spent seven hundred dollars, she finally concluded that she was not better. Then she went to a regular physician. Like most of those patients who have been plundered by quacks, she was too ashamed to appear in court against the chiropractor. Had it been a physician who had maltreated her in any way, she would have lost no time in bringing legal action.

It is the duty of every physician to use his influence in order to overcome these meddlers with the sick. If every physician would take time to seriously explain to ten patients, who are not subjects of these schools, why they are unsafe, approximately 1,500,000 people would be reached in this manner.

Irregulars Have Produced No Scientific Work

In going back over the remarkable works performed by our profession, we always think of Jenner, Lister, Koch, Ehrlich, Metchnikoff, Widal, and others too numerous to mention, who have devoted their lives to science. We cannot but think of the sacrifices they have made to advance medicine. Can any Christian Scientist, osteopath, chiropractor, or "healer" of any kind name a single man who has done serious scientific work? The answer is obvious. Such men have nothing to offer except certain theories, which, they claim, will make possible the cure of all kinds of diseases. Have they any standards of education? Is a college degree (or any preliminary education) required before a student is allowed to enter such schools? Many of these very men who are preying upon the public were machinists or department-store clerks before they decided to get into a field which offered more inducements from a financial standpoint, besides giving them the title "doctor." This latter title is becoming like that in vogue in Kentucky where anyone who has not committed murder is entitled to the name of "colonel."

The graduates of these schools have no knowledge of human anatomy or physiology and their success depends upon having patients who have little knowledge of the human system. Everyone should know that the vertebræ cannot get out of place and that this mystifying "cracking and snapping" of the spine, which they dwell upon, can be produced in almost any human being. Read this advertisement of a chiropractor. "Chiropractic is the only science that adjusts the cause of diseases. When a Chiropractor gives proper adjustments, he can obtain 95% good results. But, with two or three clicks on the spine and improper adjustments, satisfactory results cannot be expected."

This piece of printing is an insult to average intelligence. In the first place, how can the spine get out of adjustment? In the second place, what can a "click" be? Grammar-school pupils should be taught the elements of physiology more thoroughly, so that they will not become victims of quacks in later life.

Love of the Mysterious and Unusual

Love of mystery prevails and there is no nation in the world where health is exploited for commercial purposes as much as it is in our own country. Coué takes America by storm; yet, I venture to say that, in five years, his name will be forgotten. A few idle women will no doubt enjoy him. The mysteries of the subconscious mind have become the mindstuff of the "educated" today and are served up at dinners and teas. Couéism may be summed up in one slangy phrase "kidding

yourself along." Undoubtedly, Coué has received several donations from those who might object to a fee of five dollars from a regular physician and probably keep the latter waiting a year for it.

One of the latest fads for health seekers among the idle classes is that of standing on one's head for several minutes in order to "change the circulation." Society women are very enthusiastic about this method. Some time ago, the fad was stretching by means of an apparatus which many had installed in their homes. As with most of these treatments, there is usually a substitute for mental or physical exercise.

The "natural bone-setter" has been another menace. In the state of Rhode Island, there was a family of bonesetters who, for years, made a great deal of money playing with fractures. The last of them could neither read nor write, knew nothing of anatomy, yet he had a large practice. He denounced x-rays. His "remarkable" results were investigated and subsequent x-rays proved that, in half of his cases, the bones were not broken at all. His method of procedure was, to take a man who had a severe sprain of the ankle, for example, and announce that it was a bad fracture. He pulled on the joint and the patient suffered agony while he "set" the bone. Then he applied his bandage, removing it every three or four days for five weeks, applying "angleworm ointment," finally permitting the patient to walk. Naturally, the result was good, owing to the fact that there was nothing but a sprain in the beginning.

The Cause of the Situation

While physicians are endeavoring to prevent these people from practicing medicine, by framing laws against them, let us reflect a moment on the actual cause of the situation. The propaganda against the family doctor resulting in the alleged disappearance of our old friend who came to us in all circumstances, the wave of therapeutic nihilism, which has swept the profession, naturally created another kind of practitioner to replace him. "Medicine has changed in the past fifty years, but human nature has not" (Nascher). Why cannot patients be served better than they were fifty years ago with all the scientific advancements? Too many physicians have been preaching that drugs were of no value, that they could practice medicine with ten remedies, and expanding other theories which have taken confidence away from the medical profession. I find that many people actually dread to go to a physician and prefer to seek relief from other sources. Why does this dread exist? I am told that, to see a physician often means passing from one specialist to another, with an ultimate expenditure of money that is beyond most patients' means, besides the inconvenience involved. Any physician who takes time to talk with his patients soon discovers this and, since the war, medical fees have become too high and the laboratory has added another expense to the patient.

The nihilism in therapeutics referred to above does not work out when physicians themselves are ill. A few years ago, in a military camp, several medical officers were discussing the fact that drugs were of no value; they had little confidence in them and were willing to treat pneumonia without medication. (Trousseau said the same thing but added that he had never dared to try it.) An epidemic of influenza came and several of these very physicians were ill and were sent to the hospital; every one of them complained that he was given no medicines and one actually cried when the mail did not bring a special prescription which he had ordered!

Place yourself in the position of a patient. Consult a physician who gives you no hope, who treats you as a disease and not as an individual, who tells you to go home and take a "rest cure" without medicines, and wonder if this therapeutic nihilism appeals to you. The average physician, upon graduation, has been taught that about one drug was necessary for all diseases; that was hexamethylenamine. What will become of our therapeutics now that this has been shown to be of little value?

Patients Want Encouragement

One of the first things a patient requires is, encouragement and hope. The average physician today is hypocritical. The patient wants medicine which, he hopes, will relieve him. He will probably consult various physicians in the attempt of getting relief. He always finds the osteopath and chiropractor ready to promise him a cure. To a great extent, these various men are the direct result of our therapeutic nihilism. Most of the ailments now treated by them were formerly treated by the family physician, who was always ready to help. Perhaps he did not always treat his patients quite according to the latest methods, but he treated his sick people and benefited the sick souls.

Robert Bartholow said, in 1876, in an address before the medical and surgical faculty of Maryland: "He who despises his art, can never become a great artist. Good practitioners are always found to be men enter-

taining the greatest confidence in the powers of medicines." Jacobi wrote, in 1908: "Medicine is more than a pure science. It is a science in the service of mankind. We live in the era of therapy; therapy in politics, social and individual life."

Jacobi pleaded for years for therapeutic optimism. He died before the cycle of nihilism had run its course. But, optimism will come back. Modern medicine has practically taught us that drugs were of no value; yet, there are many valuable remedies which were used successfully by Trousseau, Watson, Clark, Flint, Ringer, Jacobi, Beverley Robinson and many others, which remedies have never been heard of by the younger practitioners. In science, there should be no missing links, the works of our old masters should be combined with the present.

While the real surgeon has our entire confidence in his work, the "occasional" surgeon is usually a menace to humanity. He mixes surgery with general practice, easily carrying streptococci from the infected throat to his surgical patient. Let surgery be done by surgeons who do nothing else. There is hardly any condition a patient consults an "occasional" surgeon for which, in the latter's opinion, does not require surgical interference. It is the "occasional" surgeon who performs unnecessary operations, removing innocent appendices and preying upon wombs for tippings and warpings. To him, a stomach-ache is always due to an "injected" appendix!

The fear of this "occasional" surgeon, the therapeutic nihilism of the physician, the increased cost of medical examinations, the fact of being forced to pass through the hands of several physicians before the diagnosis of a simple ailment is made, these are some of the things that induce patients to go to practitioners of the various cults, where the procedure is more simple, apparently less expensive and where some encouragement is always given. The more specialized medicine becomes, the greater will the practice of these "paths" become.

What the Cults Accomplish

We are told by some patients that they were cured of certain ailments by osteopaths and chiropractors, and actually some of them were relieved by these men. What do they do? A rich woman, for example, plentifully supplied with adipose tissue, finds herself suffering from "stomach trouble". Her diet is rather complicated, she loves and lives to eat, hates to exercise, she motors daily but never walks; she has "autoitis." If a physician should advise her to walk every day, to take some setting-up exercises, she would improve rapidly; but she does not care to exert herself and goes to an osteopath. He manipulates her back, massages the woman and gives her a better circulation. Her neck is straightened, her chest thrown back, her abdomen in, and, all in all, she obtains, for five dollars, the result which could be hers if she would exercise herself.

These "paths" have been known to treat diphtheria without antitoxin, much to the regret of the family; they also manipulate spines which are affected with Pott's disease and backaches due to cancer of the sigmoid. Recently, one "adjusted" the spine of a patient who was passing a kidney stone, but a physician was later called to administer morphine.

The Remedy

How shall this problem be solved? First, we should do everything in our power to have legislation enacted against the unqualified practitioners. Physicians are notoriously lax in medical politics. They do not realize the great harm that is being done to medicine by these unprincipled men who are commercializing medicine.

Physicians should increase their own efficiency, to enable them to do better work, thereby making the "paths" unnecessary. The work of Sir James Mackenzie, at St. Andrews Institute, Fife, has shown that the family physician is in a peculiar position that enables him to be the most useful of all practitioners. He sees the patient at the beginning of his illness, he knows all of the family history and is better able to judge his condition than anyone. Let the physician who says that he can practice medicine without drugs pass on, for he is senile. Let the family doctor come back with renewed energy, equipped with postgraduate teachings in diagnosis, x-ray, blood examinations, laboratory tests, electrical diagnosis instruments and with scientific electric apparatus for treatment. Let him be so well educated that he knows his own limitations, and he will send patients to specialists because he knows why he is sending them. Men of this kind will increase their own practice and, at the same time, send more patients to specialists, since they will know better how to handle these particular "cases."

There is a large field for the general practitioner who is able to do the right kind of work. The first examination of the patient by the efficient general practitioner will be thorough and include an examination of the whole body, an inventory, as it were, of every organ by means of physical examination, laboratory

tests and x-ray. Let the fee always be within reason and give the patient no cause for criticism. Patients are always willing to pay well for services which are well and faithfully given, provided results are gained. The more efficient these examinations are, the less unnecessary and the more necessary surgery; less ruthless extractions of teeth (this wholesale extraction of teeth upon physicians' advice, without relieving the diseased conditions, has turned a multitude of people against them); less groping from one group of doctors to another. If patients can get satisfactory results from their physicians, they will not seek outside help.

Therapeutics should be taught more and more and the works of the older physicians should not be overlooked. The writings of Trousseau and our great Jacobi are replete in therapeutic suggestions. Many modern books have been copied from Ringer's Therapeutics. French physicians have great faith in therapeutics and we find no unqualified practitioners in France. Perhaps it is because the French people are better educated in medical matters than our lay people. In France, the newspapers print only the proceedings of the Academy of Medicine and the other academies, while in America we are always served with some freakish ideas, which have no foundations. We are told that the poison of the Gila monster (Heloderma) is a useful remedy for locomotor ataxia, or some other fraud of this kind.

Physiology should be taught to better advantage in our schools. It is pathetic to hear a seemingly educated woman say that she has a pain in her liver on the left side, to find that she does not have the slightest idea where the gall-bladder is.

In this day of highly-specialized medicine, physicians are the victims to a certain extent. In certain chiropractic schools, which teach every weapon against the medical profession, students are warned not to attack some of our medical associations. They say: "Let them alone; they are killing medicine themselves."

Are we killing medicine?

Some Instances of What Is New

in Medicine Since Our College Days

By E. H. PIRKNER, Brooklyn, New York

Motto: *Docendo discimus.*

ONLY the fact that, among practitioners of the regular school who graduated and were licensed between the years 1890 and 1900 and who, consequently, are, at present, upon the height of their busy lives, I have met not a few rather scantily endowed with knowledge of some of the important phases of present-day medicine, induced me to make a sketch for a journal article (with no ambition to read a paper), an outline of some items that are new in scientific and practical medicine since twenty-five or thirty years ago.

In this article, I shall not dwell on the obvious which has become a matter of everyday usage, unless it be needed to refresh the doctor's memory; nor shall I go to the other extreme of presenting any of the countless improved surgical technics. Nor do I pretend to a historical sketch with an exact chronology. It is, however, my object to awaken the general practitioner everywhere to some of the possibilities for increased success, for the benefit of his patients as well as of his own economics, possibilities which he may have missed.

At the time when we began practice, bloodletting as a therapeutic measure, be it venesection or any other method to that purpose, had become obsolete, only occasionally recommended, perhaps, by older men in cases of eclampsia[1] and during the pyretic congestion of lobar pneumonia.

The Typhoid Blood Culture and the Widal Test

It required an impulse on the part of the clinical diagnostician to attack again systematically the arm-vein, this time with the object of obtaining (by means of the ordinary intravenous needle) 10 to 15 Cc. of blood collected in a sterilized test-tube. Thus the blood for the typhoid culture test was taken during the first years (since 1896) of its application[2].

At the present day, for the medical man or woman, versatile as they ought to be and

[1] The practical usefulness of blood-letting has demonstrated itself to me favorably in cases of eclampsia conjoined with placenta previa; somewhat free bleeding under manipulation relieving the circulation and breaking the convulsions. Then saline infusion should be given.

[2] Today, we have several much simpler methods. During the first week of suspected typhoid fever, a puncture in the edge of the lobe of the ear yields 20 to 40 drops of blood, sufficient for a culture in oxbile to show the motile bacilli after 12 hours' incubation. Keidel's vacuum tube for collecting blood from the vein is very convenient and obtainable at surgical supply houses.

fully conversant with the microscope, the more convenient method, the Widal reaction, requires little time and merely a habit of accuracy. A few drops of blood (0.1 Cc. of the patient's serum), from the tip of a finger caught in two or three glass capsules drawn out at both ends to a capillary point, are sufficient for the reaction to be demonstrated in the "hanging drop"—typhoid cultures being purchasable any time. With an inexpensive blow-pipe, one can easily and aseptically produce from suitable soft-glass tubing (or in an emergency by breaking off the lower half inch of a tube which contained peptonizing powder) the capsules ready for use. Filled with blood, at the bed-side, the pointed ends are sealed with the flame of a match.

The technic of these reactions is described to its minute details in "Clinical Diagnosis," by J. C. Todd. As the first appearance of a Widal reaction does not occur before the fourteenth to the fifteenth day of actual disease, Todd says: "It is evident that its value for *early* diagnosis is much less than that of the blood-culture," (p. 611) which "offers the most certain means of early diagnosis." (p. 346.) Joseph McFarland, M.D., Professor of Pathology and Bacteriology, Medico-Chirurg. College, Philadelphia, writes: "Heretofore the application of the Widal method has required a considerable knowledge of laboratory technic, etc., and time-consuming manipulations . . . . We now find that, for a very moderate expenditure of money and patience, an accurate diagnosis can be made in a few hours at the bed-side with materials readily prepared, unlikely to deteriorate, innoxious to handle and simple to manipulate. There is now no reason why a practitioner of medicine in the most remote corner of the country shall not conduct as scientific an observation and make as accurate a diagnosis of typhoid fever as one in the heart of a great city surrounded by laboratories and other facilities." (Courtesy of Messrs. Parke, Davis & Company.)

The agglutination phenomenon is plain even without a microscope to the one with insufficient microscopic experience. And here it is where my quarrel with the general practitioner starts: For years, the Widal reaction (than which nothing is more certain evidence of typhoid toxin in the blood and which is the only method of detection of the typhoid "carrier" and, therefore, the only means leading to individual protection) had remained the monopoly and the privilege of the hospitals, as much neglected by the practician as the intravenous infusion of physiologic saline solution, for which he, and most certainly any obstetrician, ought to be compelled by law to be always prepared or to be required to call a consultant if not prepared.

Intravenous Therapy Stimulated by Chemotherapy

In order to place intravenous technic on a working basis and render it attractive and available to the average medical man, another impulse was necessary. It came when the stars on our medical firmament guided us to the constellation Schaudinn-Wassermann-Ehrlich.

In 1905, the veterinary surgeon and laboratory expert, Schaudinn, added another link to the chain which fastens the diagnosis of that destructive pest, syphilis, on its victim, by demonstrating beyond doubt, again and again, in the serum forcibly expressed from a syphilitic primary lesion (chancre) the microscopic etiologic factor easily differentiated in the dark field [the house from which you buy your microscope gives full description of the simple technic] or by an India-ink stain, and called it spirochæta pallida. I venture here the immodest question how many of my readers have seen this beautiful offender under the microscope, dead or alive?

While thus a quick way to early diagnosis was made immediately accessible to the practitioner, Wassermann succeeded, in 1907, in his experiments founded on the principle of complement fixation (Bordet and Gengou) and gave to the diagnostician a practical method of a reliable serobiologic reaction for syphilis. That method soon compelled every physician, desirous of satisfying his patient, to draw from 15 to 20 Cc. of blood from his vein in order to convince him that the two or more "plus Wassermann" called for a course of vigorous specific treatment.

As early as 1902, a German research worker, Prof. Ehrlich of the University of Frankfurt am Main, through his "side-chain theory", had cleared the way to a more comprehensive understanding of the infectious diseases, which led to the final practical application of the observations made since in the biologic laboratories, upon the diagnosis of syphilis: the Wassermann test. At the time when Ehrlich arrived on a visit in the United States and was greeted with acclaim by the representatives of our profession in New York, in January, 1904, nobody was aware that this investigator was planning a brave attempt at exterminating syphilis, until,

in 1911, after years of indefatigable experiments, he elaborated his "606", named "salvarsan", and began his attack on individual syphilis through a *"sterilisatio magna"*, by injecting a large dose of his new remedy into the basilic vein of an arm. Thus the necessity of obtaining blood from the vein for diagnosis combined now favorably with the practice rapidly acknowledged as inevitable of injecting "salvarsan", to bring the intravenous technic to the front and, soon, whoever could spare the price, was equipped with one of the many more or less complicated sterilizable intravenous apparatus. Considering our present-day simplified method, thanks to the beautiful, precise aseptic glass-syringes made in Japan (and also here) and the platinum-iridium needle cannula, we must admire the courage of our non-surgical colleagues who bought promptly 25-dollar-outfits, some of which were never touched, while others were used only once or twice. This day, there is hardly a single practicing physician who does not make actual use of these modernized methods (drawing blood and injecting with syringe[3]), because they are simply demanded by the intelligent public. That is what we like to believe, anyway. But, I know better; namely, that there are still plenty of practitioners "too busy to waste time" on technical procedures, who yet do not like to see the gold-coin, which they might have, roll into the pockets of men better prepared and equipped, and who for no other reason but lack of technic continue the per os- and nostrum medication.

However, by the various steps leading to a keener and earlier diagnosis and to a more certain cure of syphilis and its consequences and complications, a great stride in advance was made toward a more opportune principle of administering chemical remedies in larger doses and at longer intervals than had been customary by the old method per os and by the slow, less controllable route of the stomach. Indeed, there exists a great temptation to have all the former methods of administering remedies [the one of minute quantities injected hypodermically into the capillary system of the skin, the problematic inunction coaxing absorption through the skin, the feeding of the various mucous membranes (prepuce, conjunctiva) and especially of the mucous lining of the large intestine (per rectum) with its scarcity of absorbing glands] supplanted by one of the modern methods of injecting the remedy in sterilized solution into the blood current direct. We know the flaws of intramuscular injection and have no doubt that intravenous administration must act more directly and promptly, also with greater certainty. Considering the old-fashioned drugging per os, is it not easy to understand that many "medicines", running counter to numerous deleterious traps in the human plumbing, such as stomach, duodenum and the different kind of intestinal glands [ignoring that mysterious labyrinthine offender, the appendix, sometimes falsely accused in pre-endocrine days, often truly acting as a trap retaining useless residue of persistent drugging] must on their long voyage from loathing lips to a rarely explored anus appear in the thoracic duct in a potentially changed chemism which to study we have neither the means (of equipment and knowledge) nor the time.

The needs of the practicing physician and the lively propaganda of the manufacturing pharmacists, always wide awake to innovation, spread the facts of modern syphilotherapy quickly enough and thus the venous route, formerly held in dread of leading to embolism, was now chosen for injections of chemicals without fear by specialists and more frequently than before by practicians even in remote hamlets, until it has now become a favorite way of therapy with many. Due to their zealous work in well-equipped biologic stations and research laboratories, the firms of national reputation placed reliable information at the disposal of the physicians all over the country and the intravenous administration of Ehrlich's remedy and of other arsphenamines became almost a reflex action with the practitioner who had to treat syphilis. It is only to be regretted that, by a misunderstanding, to the cacodylates should have been imputed the power which belongs exclusively to the arsphenamines. The error happened merely because other arsenicals and other chemical combinations were evolved experimentally in many laboratories and rendered suitable for intravenous use, soon after the introduction of arsphenamine. It has been demonstrated that the cacodylates are practically inert against syphilis.

One must have seen the conscientious methods and rigorous asepsis observed by the manufacturers of intravenous products, one of whom was the first to subject the water

[3] For a course of treatment with arsphenamine, etc., the latest wrinkle in simplified technic is, solutions in containers with all the attachments sterilized ready for use.—No syringe.

[4] Glucose in serious Toxemia of pregnancy is now a matter of routine practice, but its intravenous use still meets with difficulties. It has been tried with some success, as has been reported in the literature.

for his solutions to a triple distillation and whose aim it is to make an increasing number of chemicals[4] available for powerful intravenous dosage at three or more days' interval, for the result as much as the convenience of doctor and patient. To such men we owe some of our successes in the treatment of numerous chronic and systemic pathologic conditions, as they were never before possible with the same certainty and promptness and which render it our duty to the medical profession and to suffering humanity to spread the information to the best of our ability, with *not the slightest hesitation* of guiding the practitioner to the right address. I consider this therapeutic innovation, developed through years of faithful application by the genius of an Ehrlich, and again of a pharmacist in cooperation with some clinicians, as one of our best practical acquisitions since we were sent out by our Alma Mater on our beneficent mission.

Diphtheria Antitoxin

Having anticipated, may I be permitted now to return chronologically to the time antedating the period just discussed? Of the decidedly great additions to our therapeutic powers, the first modern one since our college days and the most salutary, which has saved countless lives, became available in the United States in 1900: Behring's invention, the cure of diphtheritic croup and the prophylactic protection against diphtheria by injection, into the cellular tissue under the skin, of large doses of the serum of horses gradually immunized against the poison of bacillus diphtheriæ. While, during that aggressive campaign against diphtheria, our diagnostic means were limited to the demonstration of the bacillus grown in cultures from the products of the disease in progress, our present-day knowledge has added as a diagnostic and defensive measure a refinement in Schick's test, in which, by intradermic injection of 2/10 Cc. of toxin and the same quantity of control (physiologic salt solution), observations being made every 24 hours, a reaction reveals, on the fourth day or earlier, if the individual is susceptible or not to diphtheria; a very valuable point in our decision whether prophylactic antitoxin should be injected or be omitted. Toxin-antitoxin mixtures, injected at weekly intervals until three injections are received, have resulted in immunity of up to 44 months' duration[5].

For practical purposes, compare smallpox vaccination with the Schick test: If the individual tested is immune, no "take" follows; there has been only a scratch (a tiny intradermic puncture for Schick test) on the arm and no inconvenience. If the vaccination (or inoculation with diphtheria toxin) does take, it proves susceptibility.

The skin-reaction method was first employed for the tuberculin test (with "Tuberculin Old", Koch) by von Pirquet, of Vienna, who had a special scarifier made for producing a slight abrasion of the skin. It is now also in use to test "Allergy" (an idiosyncrasy to certain proteins), by rubbing a few minims of a diagnostic protein extract in form of a paste, from a collapsible tube, into the abrasion. "Allergens"[6] are also supplied in liquid form for use according to Schick's method. The firms which produce biologic sera and test solutions send, upon request, full printed directions and literature reviewed up to date.

In the diagnosis of tuberculosis, Tuberculin Old is also used by Koch's method (the subcutaneous), by the conjunctival methods of Calmette and of Wolff-Eisner, and by the use of Tuberculin Ointment (Moro).

Biologic Prophylaxis

On the same principle, as demonstrated by the successful protection from diphtheria, has the prophylaxis against typhoid fever [carried out on a large scale since about 1902, first introduced by Wright (1896) in the British Army during the Boer War] become successful. Immunization, i. e., antityphoid vaccination, has been officially adopted in the armies of different nations and put to test in the Japanese-Russian campaign, in 1904, and is universally practiced in large public institutions and by boards of health in case of need; all this so successfully that epidemics have become almost legendary and past history. The calamities during the recent famines in Russia, with subsequent epidemics, prove the correctness and necessity of the measure[7].

[5] Active immunization with diphtheria toxin-antitoxin. Observations of the Schick test by Jacob Meyer, M.S., M.D., *Jour. A.M.A.*, March 11, 1922.

[6] They come in groups (diagnosticians speak of "group reactions"), 174 specially prepared allergens being now available to the medical profession. They are extracts of food proteins, divided in vegetable, fruit, nut, fowl, fish, egg and milk, beverages and other groups; protein extracts (allergens) for idiosyncrasy against animal integuments, hair and dander group; chicken, duck and goose feather group; against plant elements the pollen group; for instance, corn, goldenrod, timothy, etc., and the bacterial-proteins group (gonococcus, pertussis, influenza, staphylococcus, etc.)

[7] Merely to recapitulate for practice, note the following dates: The Widal reaction, introduced into practice by Widal, rests on the principle of agglutination of bacteria discovered by Pfeiffer and Kolle, independently, in 1896. In prophylaxis, as small units of typhoid vaccine are to be considered 125 millions of bacteria (suspensions in sterile saline)

Thus, the prophylactic principle first employed by Jenner (in 1796) in cowpox vaccination and, one hundred years later, developed scientifically by serology, proved practicable and successful in diphtheria and typhoid fever and has recently been used to prevent epidemic influenza and subsequent pneumonia (influenza-pneumonia vaccine prophylactic). For curative purposes, beside diphtheria antitoxin, the concentrated blood-serums of horses immunized to toxins of tetanus, of streptococci, gonococcus, meningococcus and pneumococcus (type 1 and types 1 to 4, polyvalent) are available for immediate distribution by the biologic supply stations ("anti-serums").

The prophylactic and curative effect is also obtained by bacterial vaccines, saline suspensions of killed bacteria[8]. "An autogenous vaccine is one prepared from cultures isolated from the particular case under treatment." Its greatest field for usefulness is found in subacute conditions.

For subcutaneous or intravenous administration, to obtain a result more rapidly than by vaccines, phylacogens are used, bacterial culture filtrates. There are sepsis, respiratory infection, erysipelas, gonorrhea, pneumonia, rheumatism and typhoid phylacogens.

On the successful bacterin treatment of pulmonitis, pertussis, scarlet fever, cerebrospinal meningitis, general tuberculosis and on the autohemic treatment (incubating the patient's own blood for a curative serum), the last word has not yet been spoken. However, we must insist that there is nothing metaphysical, nothing cabalistic or esoteric in such attempts and that well-observed successes reported are scientifically sound throughout.

Endocrine Glands, Hormones

Epoch-making was the discovery of the function of the ductless (endocrine) glands by Bailiss and Starling [1904 and 1905; but, before them, by E. Gley.—Ed.] the potentiality of which they ascribed to the *hormones,* which their theory interprets as "chemical messengers" perpetually on their errands back and forth, day and night coming from and going to ductless glands: They are elaborated by the pituitary, the pineal, the thyroid, the suprarenal glands, the ovaries, and, in young children, the thymus.

The sex glands, ovaries and testicles, have both, external and internal, secretions. So has the pancreas. Banting and Best, Canadian investigators, have just recently succeeded in obtaining the internal secretion of the pancreas and, therapeutically, in controlling the glycosuria and toxemia (acetonuria and coma) of diabetics; they call this hormone Insulin. Even if this were to result only in symptomatic relief (as the preliminary reports have not had time to follow up permanent cures) the achievement would be the most noteworthy acquisition in organotherapy, even above the reported success of the "takes" of transplanted interstitial-gland material from the testicle of the higher ape into the human, the permanent effects of which are still problematic despite the technical surgical success

Whoever in the medical fraternity has made a faithful study of and given a true clinical test to the *solutions* of organic gland products, put up by the best-equipped research laboratories, by way of hypodermic administration [with intravenous use of endocrine products I have no experience] must admit that the results are surprising, usually prompt and unquestionable: Organotherapy has come to stay[9].

To my mind, that means that the endocrine glands are very sensitive and respond with alacrity to ingredients of their own affinity. Then, why should they not also be responsive to chemical ingredients which, unchanged by way of intravenous induction into the circulatory system, come to make immediate contact with their secretions (the hormones) as closely as the assimilable products of the ordinary nutriment, with the ultimate effect of ready response from any of the ductless glands, thereby altering the clinical picture noticeably?

[*To be concluded.*]

for the first injection, 250 millions for the second and 500 millions for the third. Injections given ten days apart. Two hundred and fifty millions for the first, 500 the second and one billion the third injection is prophylaxis assuring *absolute* protection good for three or possibly four years. The ordinary sanitary regulations must not be neglected: boiling all water, sterilizing milk, disinfection of stools, sterilizing clothing; discouraging the fly.—A positive Widal reaction nearly always follows a prophylactic dose of typhoid vaccine. The inoculations are *harmless* in healthy persons.

[8] In such conditions as acne, coryza, nasal catarrh, other respiratory diseases, erysipelas, mastoiditis, malignant endocarditis, acute tonsillitis, phlegmon, puerperal sepsis, suppurative processes and as a valuable adjuvans to surgery. There are also vaccines against furunculosis, gonorrhea, influenza, influenza-pneumonia, pertussis, pneumonia and pyorrhea alveolaris. Streptococcus polyvalent vaccine is made for the prevention and treatment of scarlet fever. Typhoid vaccine and typhoid-paratyphoid vaccine prophylactics belong under that group.

[9] Just one case as a striking illustration: In a neurasthenic, well-nourished, highly cultured girl (English blonde), 24 years old, four months under observation, of generally good constitution with a six-weeks' menstrual type (for years) and always regular, the first three hypodermic injections of corpus luteum, with two-day intervals, caused noticeable enlargement of the ovaries with consequent buoyancy.

A Successful New Treatment for Chronic Diseases

By DR. B. SHERWOOD-DUNN, Nice, France.

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[*Concluded from April issue, p. 265.*]

Case Reports

At the risk of extending this paper beyond the ordinary limits of a magazine article, I venture to relate the following cases.

General K., reduced to the use of crutches by inflammatory rheumatism which had lasted two months: emaciated, loss of appetite, unceasing pain, constant slight degree of temperature, palpitation following any exertion, insomnia. Has tried the remedies prescribed by three physicians without result.

He received seven injections of Entero-Antigens, three days apart, commencing with 0.1 Cc. and increasing by 0.1 Cc. each dose until the fourth, then by 0.2 Cc., the last being 1.0 Cc.

At the third injection, he substituted two canes for the crutches; at the next, he walked with one cane. Marked increase in appetite, no pain at night or when quiet, some pain when walking, swellings of joints reduced; redness has disappeared. He is loud in his praise of the treatment and life has taken on a new aspect. He had apparently recovered after the seventh injection and the treatment was discontinued. He has had no relapse now in eighteen months. Practices fencing, of which he is an expert, and rides horseback daily.

Dermatoses.—M. F. W., age forty-five years. For four years, oozing red plaques varying in size from a pea to a fifty-cent piece all over the body, and particularly on the legs. Insufferable itching. Sleepless nights, emaciation. General condition bad, attributed to insomnia. Transient gastrointestinal disturbances.

The patient has consulted several specialists, has tried several external treatments and changes in diet, without lasting success.

Examination of the Intestinal Flora.—No account was taken except of germs which grew in twenty-four hours' incubation on ordinary gelatin slants (meat-broth, peptone).

Found: Colon bacilli, 90 percent, enterococci, 5 percent; indeterminate diplococci, 3 to 4 percent; very small streptococci, 1 to 2 percent.

Preparation to be injected: All the germs were mixed in 0.7 percent salt solution, in the proportions in which they grew on the gelatin. The mixture was distributed in sealed ampules, sterilized by heating to 70° C. for an hour.

Each ampule contained about 1.0 Cc. of liquid with about 0.02 mg. of bacterial matter dried at 140° C. to constant weight.

Treatment.—First series of Injections.—First injection at 2 p. m., 1.0 Cc. into the muscular tissue of the arm. Slight chills three or four hours after the injection. No itching at night, good sleep. Next day, slight general fatigue, slight pain, redness at point of inoculation.

Second injection, twenty-four hours after the first, 0.5 Cc. followed every day for a week by injections, increasing the doses from 0.5 Cc. to the maximum of 1.0 Cc.

The patient no longer suffers from itching, the plaques have faded and are not moist. No treatment for the next month.

At the end of the month, the plaques are clearly on the road to recovery. There is no more itching, sleep is good, general condition much improved.

New Examination of the Intestinal Flora.—The same germs are found in the same proportions.

Serum diagnosis: The serum of the patient does not agglutinate any of the germs in a 1:40 dilution.

Second series of injections under the same conditions as the first, with this difference that, at the beginning, the dose was small, 0.1 Cc.

Results: At the end of the second series of injections, the plaques have completely disappeared. For five years, the patient has been in very good health, from every point of view.

M. L., age forty-two years. General condition fair. Declared "fit" for active service at the beginning of the war. Discharged after three months, for incurable skin disease.

The patient has lived for fourteen years in central Africa, where, beginning with the first year of his residence there, he contracted a skin disease characterized by the appearance on the whole face and surface of the body, but especially on the back, of small, red phlyctenules with small yellowish centers; these cen-

ters exuded a small amount of pinkish liquid which dried, leaving red crusts. Insufferable itching after the least fatigue with sweating.

The patient has consulted many dermatologists and has followed, without success, all the treatments recommended. Among others, he has received several injections of his own serum. One of the dermatologists he consulted told him that his dermatosis was very similar to scabies.

The bacteriologic examination of the patient's stools gave approximately the same results as in the preceding case, and the same treatment was applied, with exactly the same result. The patient has never had a relapse, and has been in very good health for four years. The second examination of his intestinal flora showed the same germs as at first.

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These two observations taken at random among many other similar ones suggest the following reflexions:

While the supposition was that one of the germs living in the large intestine and contained in the fecal matter of our patients must be the cause of their illness we could not, a priori, assume that all the germs seen by the microscope in fresh or stained preparations of fecal matter could share in the cause to an equal degree. On the other hand, as we had no guide which could have suggested the choice of one germ rather than of another, we chose, to begin with, the germs whose cultivation was easiest and simplest: surface growths on gelatin slants, therefore, the commonest aerobes.

In order to recognize their morphologic characters, their biochemical and pathogenic properties, each germ was isolated in a pure culture, then cultivated in different media, and lastly injected, either mixed or separately, into mice.

The mice so treated never contracted a fatally infectious disease in spite of the relatively strong doses (0.1 Cc. of a twenty-four-hour broth culture). We were thus handling only innocuous germs.

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A.N.D. This patient had a long history of gastrointestinal disturbances with abdominal and rheumatic pain at various times. In April, 1919, a seborrheic eczema of the trunk and scalp plus an oozing eczema of the perineum and scrotum appeared. The patient was given dead heterogenous bacteria of which he took by mouth 2 mg. as an emulsion daily. Disappearance of the pains and of the eczema was almost instantaneous.

Another patient was treated in a similar manner except that the development of pustules indicated additional treatment with a staphylococcic autovaccine obtained by culture of the pustules, which was given.

Two cases of psoriasis were also much relieved by the injection of entero-antigens. In one of these, a second course of treatment was begun ten days after the end of the first course, but the local reactions were not more severe than the first, the patient was therefore not sensitized by the first course.

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Asthma.—M. M., age forty-seven years, has suffered for five years from dyspnea which grows worse every year and shows itself particularly in the evening after sunset, lasting from 11 night until 10 a. m. or 11 a. m. Cold and rainy days are usually much worse than fair weather. Dyspnea is then accompanied by coughing with very difficult expectoration. During and since the war, this condition of asthma has become sensibly aggravated on account of the open-air life of the patient who had to dig trenches. The patient received in a total period of eighteen days two series of eight hypodermic injections of an autogenous bacterial preparation isolated from his own intestinal flora and sterilized by heat. This was a mixture of colon bacilli, of Gram-positive diplococci and of Micrococcus tetragenus. Several minutes after the first injection into the left arm, the patient felt "like a trembling", followed by a tingling and itching in the whole left side of the body and immediately afterwards his respiration became easier.

Improvement continued during the course of the treatment. The patient can now (eighteen months after) go out and work in bad weather without suffering therefrom; sleep is normal; cough has completely disappeared. The general state is better than it has been for a long time, the patient feels younger. The attacks of asthma have not recurred for the last eighteen months. Gastrointestinal functions, often disturbed previously, have at the same time become completely normal.

(Dr. Dalimier).—Hayfever.—Mr. J. L., navy engineer:

The minutest contact of a particle of hay is sufficient to bring on asthma. Wheat and barley have the same action, as also grapevine, but to a lesser degree. Flowers of any kind have no influence. Honey, however, it must be noted, sometimes produces some respiratory and gastrointestinal disturbances. Never any attack on the ocean.

The attack is characterized by a very pronounced oculonasal catarrh, coryza and head-

ache; then, after some days, dyspnea appears, asthmatic in type, very troublesome, especially at night. The attack lasts two to three months, alternately increases and decreases, and leaves behind it an early-morning dyspnea until autumn. Apart from this hayfever, this patient enjoys good health. During the last twenty-five years, he has undergone all known treatments. Locally he has had his adenoids removed, he has taken nasal douches of hot air, and of various antiseptic or analgesic cures; Luchon, La Bourboule, Le Mt. Dore, where he spent several consecutive seasons. He has tried ozone, which produced a notable and constant increase of the trouble: carbonic acid, and pollantin, without any benefit. The only measures causing relief have been arsenic by mouth, and "Doctor Tucker" applied direct.

Physical examination, April 15, 1919, normal.

Bacteriologic examination of the feces shows colon bacilli, diplococci.

Treatment: As the patient, at this date (April 15, 1919,) showed no morbid symptom, treatment was given from a preventive point of view. Autogenous entero-antigen, 3 subcutaneous injections, every fourth day. Very slight local reactions.

Patient seen again June 6. Has been in frequent contact with hay, in Paris and during his travels in England, beginning about May 15. It was only in the first day of June that oculonasal catarrh occurred to a very slight degree, without coryza or headaches. There is no trace of asthma. The patient, very pleased with his condition, states that this is the first time in twenty-five years that he has been so well at this time of the year, and he judges it useless to undergo the slightest treatment for the slight cough which still persists.

Conclusions From Clinical Results

The reports of many other cases from the experience of Mr. Danysz picture the remarkable results following the use of dead bacteria in the form of an emulsion (a vaccine) and administered either by mouth or by subcutaneous injection. In most cases. improvement is immediate. Practically complete relief of symptoms is experienced by the majority of the patients after at most fifteen treatments at one- to three-day intervals.

These cases include those with such diagnoses as the following: Neurasthenia, scleroderma, dysmenorrhea, menopause, a large number of gastrointestinal disturbances including several forms of enteritis and chronic diarrhea, gastroptosis, neuroarthritis, rheumatism and the gastrointestinal symptoms of tuberculosis.

Two facts are important:

1.—The nearly complete disappearance of the cutaneous lesions in no case resulted in other morbid manifestations, such as asthma or acute articular rheumatism, which are quite frequent when one tries to "stifle" the evolution of cutaneous psoriasis by ointments.

We must therefore suppose that the antigen treatment acted not only on the apparent symptom but on the cause of the lesions as well.

2.—Different antigens are not equally active. In one case, the addition of an anaerobic bacillus, although in very small quantity, to the vaccine had a curative action which was evidently greater than that of all the other bacteria previously injected.

We shall see further on what may be the nature of this action. In this manner, 25 cases of more or less serious psoriasis were treated. The most interesting cases were given us by Dr. Sabouraud whom I wish to thank here for his kindly assistance.

In all these cases, the antigen treatment gave far better results from the point of view of the disappearance of the lesions, of its harmlessness, and of the duration of cure, than all the other treatments previously advocated. One case only, treated for two months by an autogenous preparation taken by mouth (the patient refusing to have it injected), showed no apparent improvement.

Struck by the particular activity of the anaerobic bacillus, we wished to determine the importance of searching in each particular case, for the most active antigen. Convinced of the harmlessness of our preparations, we varied their composition, and even tried non-bacterial antigens.

Thus, of 25 cases of psoriasis, 12 were treated by autogenous bacterial preparations, 9 by heterogenous preparations, 3 by intravenous injections of luargol. The results obtained in all cases were about identical, and we can add that a psoriatic patient, bitten by a mad dog, was cured of psoriasis by anti-rabies treatment.

Many hundreds of cases of chronic disease, similar to those quoted were treated in this manner (with the collaboration of Drs. Cazin, Dalimier, Delettré, Dominici, Labonnette, Raspali, Richard, Smiechowska, and others).

In analyzing these cases, one finds from the first that the treatment by antigens prepared from the germs of intestinal flora, showed itself efficient, not only in cases of digestive disturbance and in urticaria, but also in many other cases which appear to have no direct relation with the functions of the digestive apparatus. We must, therefore, conclude that,

even if the primary causes of these diseases differ, the reactions determining the pathologic symptoms must always be of the same nature.

On the other hand, the minuteness of the curative doses (2 to 3 mg. by mouth and a few hundredths of a milligram in hypodermic injections) and the rapidity of the reactions caused by these doses, suggest that the bacterial antigens contain a much greater proportion of the active substance than peptone, animal proteins, milk or any serum which in certain cases of urticaria, asthma (Widal, Nolf, Paignez and Vallery-Radot, Pasteur, and others), give similar curative results in doses a hundred or a thousand times greater.

As to the Reactions

General reactions.—The first striking phenomenon after the first, or the first few injections or ingestions of an autogenous or heterogenous preparation, is the rapid change in the patient's general condition. A direct action on the nervous system is nearly always observed which is shown by lassitude, a need for sleep, relaxation and rest, a general lull which is in no wise disagreeable, which may last several hours, rarely two or three days, and is usually followed by a long period (several weeks or months) of surprising exhilaration. The patient feels himself "being born again", he feels a surprising need for physical and mental activity, and can undertake without fatigue work which a few days before would have seemed beyond his strength. Sometimes, the period of lassitude is so short and slight that the period of exhilaration seems to appear all at once. In other, less frequent cases, the first doses of the preparation are followed by headaches which may last for several hours, by chills or by a slight rise in temperature. Still more rarely, the symptoms of the disease are seen to increase slightly. Asthmatics may have a more violent crisis, the itching in dermatoses increases, psoriasis plaques become darker; but these aggravations never last long, are not a contraindication to further treatment, and are always followed by appreciable and rapid improvement. At the most, it may sometimes be necessary to diminish the doses. If this is necessary, only one-tenth or even one-hundredth is given.

Local reactions.—The Entero-Antigens are well tolerated and there are no contraindications to their employment. When the treatment is applied in the form of injections, the reactions at the point of inoculation vary considerably. Sometimes redness and a more or less painful zone may persist for one to three days: at other times, the injection leaves no other trace than the small needle point.

If the treatment is by ingestion, one often notes, on the first and second days, a slight pain in the epigastrium. This pain is only slight and manifests itself only on pressure in the epigastrium.

Whether the treatment is applied by injection or by ingestion, palpation discloses a sensitiveness over the gall-bladder and over the posterior part of the liver between the eleventh and twelfth ribs, near the upper edge of the right kidney.

The kidney is never tender, but undergoes important functional modifications. A phenomenon is observed similar to that which often characterizes the terminal period of acute infections (typhoid fever, influenza), namely, polyuria.

The reaction on the gastrointestinal functions is quite remarkable. No matter what the preparation, autogenous or heterogenous, or whether administered by injection or by ingestion, it acts as a regulator of the digestion and of evacuations.

In those cases where gastrointestinal functions are normal, for instance in psoriasis, the beginning of the treatment is characterized by a tendency toward constipation which may last several days and recovers spontaneously without medication.

The circulation is also influenced by the action of the entero-antigens. In the cases of either increased or decreased blood pressure, one often sees hypertension diminish by 10, 20 or 30 mm. and hypotension increase by 10 or 20 mm. after the treatment.

"WHOM the gods love, die young," does not mean that they die when they ARE young, but that they are YOUNG when they die, and I could not ask anything finer from a generous Creator.—Edward Simmons, in "From Seven to Seventy," an autobiography.

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Discussion and Solution of Surgical Problem No. 9

RECAPITULATION. This problem was presented by Dr. I. E. Crack, of Hamilton, Ontario, in the March issue and, essentially, contained the following data:

A woman, 61 years old, with no previous history bearing on the case, is suddenly seized with severe abdominal pain and vomiting. There has been obstipation for the past three days, something that has never happened before. Pulse and temperature normal. Medicines were rejected by the stomach, but enemas gave relief.

Forty-eight hours later, abdominal pains returned, but without vomiting. The evening temperature was 90° F., with a pulse of 100. Abdominal examination showed tenderness and a mass in the lower abdomen comparable to a pregnant uterus at the sixth month. Vaginal examination showed the uterus to be normal; but a large mass, fairly hard and tender, could be felt posteriorly to the uterus. Three hours after the first evening examination, the temperature remained the same. The pulse increased to 116 and a leucocyte count yielded 5000.

Dr. Crack gave as requirement the diagnosis and treatment.

Immediately after receipt of the problem, I wrote Dr. Crack to let me have the solution and I submitted my offhand diagnosis, which, in the main is correct. I did not give any reasons in the letter, as I had hoped to send a full solution along with others to Dr. Crack, for his comment. I am, however, about to go to New York and Washington and, while the trip is not to be a long one, there is not time left for correspondence. So, I will publish three discussions, viz: solutions by Colonel Acheson, Dr. Gray and myself, give Dr. Crack's final solution and then comment on the solutions including my own.

Solution by Colonel Geo. Acheson, Kingston, N. B., Canada

My old neighbor in Hamilton, Ont., has given us a hard nut to crack, this time. I have no doubt, as the result of his examination of this patient, he found out a good many things which he has not told us, and he wants to keep us guessing. If we assume, by his silence, that certain signs and symptoms are absent, then we may presumably exclude certain pathological conditions.

As this patient's age is 61, we may take it for granted that pregnancy (extra-uterine) is excluded.

No symptoms have been mentioned pointing to intraperitoneal hemorrhage from any cause, except, possibly, the sudden pain and vomiting; but, these symptoms disappeared after emptying the bowel by enema, the pain returning after two days and being associated with a tender, fairly hard mass in the lower abdomen. This might be bloodclot. But, so much hemorrhage as to produce a tumor the size of a six-month's pregnancy would surely give rise to symptoms of profound shock. The leucocyte count would also negative hemorrhage.

A collection of pus is also excluded by the absence of leucocytosis or of other signs of suppuration.

With blood-clot and abscess excluded, a fairly hard abdominal mass may be a neoplasm or a displaced viscus. The most likely tumor in such a case would be a uterine fibroid. But, we are told, the uterus is normal. An ovarian tumor of the size mentioned could not appear suddenly, and would, no doubt, have been preceded by a more or less protracted series of symptoms. The same objection applies to any other new growth, benign or malignant.

The most likely abdominal organ to be displaced is the kidney (mostly right), but the Doctor gives us no indication of this.

Now, taking the meager data which have been supplied, I am going to make a guess at the diagnosis. Considering the three days without movement of the bowels, the relief following shortly after evacuation by enema, and presuming that no further evacuation took place before recurrence of pain and discovery of the mass in the abdomen, I suggest a diagnosis of coprostasis with dilated colon

dipping down to the pelvic brim. Autotoxemia from accumulated fecal matter will account for the slightly abnormal temperature and pulse.

If this be the case, the immediate treatment is, evacuation by high enema, repeated until the bowel is cleared. The after-treatment would consist of a judicial use of purgatives, nervo-muscular tonics, massage and colonic flushing, with a surgical operation to correct the displacement of the viscera as a last resort.

Solution by Richard B. Gray, Bay Shore, N. Y.

I am acquainted with no one who deems himself sufficiently wise to diagnosticate an "acute abdomen" in all cases. In fact, so hazardous is the risk of being wrong or right that exploratory laparotomy is in vogue as a diagnostic evaluator.

There are many schemes to help us in our quest, such as the arbitrary division of the abdomen into nine parts, remembering and picturing the organs supposed to lie behind these surfaces, and a somewhat easier method of division by drawing an imaginary line from the ninth rib to the opposite anterior superior spine, thus dividing the abdomen into four areas.

Then, as to evidence against the particular organ involved. An English surgeon, named (I think) Leftwich, describes a very helpful method. He maps out the areas as mentioned and then, remembering the organs beneath, he grasps the skin and subcutaneous tissue and compresses it firmly, almost a pinch. If the region over the site of the gall-bladder is tender while the area of the appendix does not respond, he accuses the gall-bladder. I have found this method of value.

Then, too, we have the alliterative arrangement which can almost be termed mnemonic. (1) Food, (2) Fat, (3) Flatus, (4) Feces, (5) Fluid, (6) Fetus.

It is important for diagnostic purposes to have the patient in as comfortable a position as possible and rightly placed as to light. We then note tenderness and think of the visceromotor reflex. We do not find swelling due to food in the lower abdomen. Fat would be noted elsewhere. Flatus would have been remarked on passing the rectal tube. Feces is a possible and probable cause. Fluid is ascertained by previous general health. Fetus by age of patient (except lithontriptic.)

The tenderness shows inflammation.

Size is noted as that of a six-months' fetus. As size is compared to uterus, I assume that the shape is the same, pyriform.

Position back of uterus, hence intraabdominal, or pelvic.

Nothing stated as to fluctuation or pulsation.

It is far fetched to consider the kidney, but it is a possibility.

We are told that the old lady has recurent attacks of acute abdominal pain which is severe, accompanied by obstipation and vomiting. The clearing up of the symptoms by enema and their recurrence with slight fever and acceleration of pulse race points to diverticulitis of the colon. The low white blood cell count may mean nothing but lowered resistance. So my guess is:

A—Diverticulitis with low-grade infection.
B—Floating Kidney.
C—Twisted Ovarian Cyst.
D—Sarcoma of Ovary.
E—Sessile Myoma.
F—Pelvic Abscess.

My suggestion is x-rays and, if this does not make possible a diagnosis, exploratory laparotomy.

Solution by G. M. Blech

The data given in this case are sufficient to make this case interesting for discussion in the Seminar. More data might have been mentioned, but in their absence one is justified in the assumption that none worth mentioning existed. We should have liked a few more details concerning the general condition of the patient: What was her facial expression like? What was the condition of the tongue? However, these not being available, we dismiss from our minds the hippocratic facies. Now, what are the facts?

The woman is 61 years old—way past the menopause. We can at once dismiss from our minds pregnancy, gonococcal peritonitis and other "follies of youth."

Advanced age is suggestive of malignancy, and the presence of a leucopenia is always strongly suggestive; but there is not a datum by which one can arrive at such a diagnosis. Just for one moment, the thought of a degenerated fibroid tumor of the uterus flashes through one's mind, but Dr. Crack informs us in no uncertain manner that the uterus was normal.

However, there is a posterior mass. What is it? Here we have something definite, palpated by the examining hand. Assuming there is the causative pathology—and nothing else except tenderness of the abdomen is given—what sort of a mass is it that, fairly tense and hard to the touch, can cause periodic pains, vomiting, etc.? How often have we

diagnosed fibroma of the uterus, to find only a cyst of the ovary, and vice versa? It is this hardness to the feel which is often so misleading. But, here we have the unequivocal statement—the uterus is not involved. What, then, is left but an ovarian, pediculated cyst that has become twisted on its pedicle?

Solution by Dr. I. E. Crack

Many thanks for your letter enclosing proof of the "problem" which you so kindly accepted. The diagnosis in this case, made before operation, was the one you suggest; an ovarian cyst with twisted pedicle. This was confirmed by operation, but (and herein lies the interest), much to the surprise of all concerned, the patient had a large carcinoma of the colon which had ulcerated through causing a perforation of the bowel. Metastases in the liver, about the size of a hen's egg. All this in a woman, with no symptoms of malignant disease, was to me very interesting. There was no evidence of malignancy in the ovarian cyst. The operating surgeon brought the cecum out through the abdominal wall and attached it in the usual way. This was opened on the third day to relieve distension. The patient died one week after operation.

Comment

Again it becomes my pleasant duty to point to the two first contributions as able discussions of the problem presented.

As can be seen from the report by Dr. Crack and the gentleman who did the operation, the preoperative diagnosis was that of ovarian cyst twisted on its pedicle. The whole picture, as manifested by the symptoms, justified the diagnosis.

The operative findings came as a surprise to all who had seen the patient. Evidently there was nothing, including the low white blood corpuscle count, which aroused their suspicions of malignant disease.

As Dr. Gray so pointedly remarked: The only lesson one can draw for "acute bellies" is: *cave canem!*

If time were left, I could tell surprising stories which would show convincingly what a wonderful preoperative diagnostician I am —not, and I think that that applies to a good many surgeons of repute.

Only one instance is cited to show that, in spite of many observations, we are still unable to free ourselves from certain prejudices.

Some time since, I was hastily summoned in consultation by a young confrère who asked me to come to the hospital, as he had a case of perforative duodenal ulcer in a woman, whose family insisted on consultation.

When I came to the hospital, I nearly took the breath away from my young friend and the interns by telling them that we had here a case of acute pancreatitis.

Now, this month, I want as many of our readers as possible to take up the following:

Exercise No. 7

Give in brief your experience with the phenomena of perforated peptic ulcer and the differential diagnosis between that condition and acute pancreatitis. It is desired that no more than 200 words be used. If contributors do not desire their names published, they can suggest *noms de plume,* by which they will recognize their work, if published.

About ten contributions can be accommodated in the June or July issues. [Let communications be submitted promptly, please.]

[*Concluded from page 318.*]

due to the precipitation of cholesterin that is present in excess in the gall-bladder. Finally, biliary stasis may lead to inspissation of bile which may bring about obstruction of the bile ducts and may result in the formation of gall-stones.

The idea, that the plentiful formation of normal bile will not only prevent formation of new stones but will redissolve those already formed, is not new. Indeed, the stimulation of free bile formation undoubtedly is one important therapeutic measure to be kept in mind.

There are several diseases that have been claimed to be purely local and *de facto* surgical, but that are being proved to be actually systemic. We do not believe that the same can be asserted successfully in the case of gall-stones.

We do not mean to infer that the treatment of cholelithiasis is under all circumstances surgical. Personally, we should hesitate a long time before submitting to the knife for relief. We should want to resort first to remedies which stimulate the formation of active, thin-fluid bile, namely, the various bile salts; then also sodium succinate and boldine, and we should certainly attempt to influence the hepatic function profoundly by general measures. This would not, we hold, support the idea that cholelithiasis is a systemic disease but it would show that systemic measures may, under certain circumstances, relieve local troubles.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

Questions Answered

FROM "L. Y."—Do you think we have too much liberty in this country? Would it not be better to have a little more restraint?

Answer.—You have touched upon a big subject. I do not think that we have too much liberty, but too much license; which is but another way of saying that the wrong people have the liberty and oppress the rest of us.

Daniel Webster said, "Liberty exists in proportion to wholesome restraint."

Madam Roland exclaimed, "O Liberty! How many crimes are committed in thy name!"

These two sentiments are just as true today as they were when they were spoken, a hundred or more years ago. Our liberty is infringed upon by the lawbreaker who takes the license of doing as he pleases, regardless of the rights of the rest of us. The tyranny of crooked politicians is just as hard to bear as that of a kingly tyrant. We all suffer from the tyranny of the profiteers, of the labor unions, and of every one who manipulates prices regardless of the law of supply and demand.

When a minority in congress resorts to filibustering, to kill a bill favored by the majority, we have an example of irresponsible tyranny that rides roughshod over your rights and mine. The rules of congress should be altered to make such a thing impossible.

We have heard a good deal of talk lately about laws interfering with the rights of the people. But, this cry usually comes from the minority who ought to be good enough sports to submit gracefully to the will of the majority. This is the first essential of popular government. There is no real liberty where this is not done. The minority have a perfect right to work for a change in public opinion. But, until they can bring about such a change, the rules of civilization require them to bow to the will of the majority. To refuse to do this, or to refuse to obey a law which they do not like, leads to anarchy. That was the trouble in many of the Latin-American republics. When the minority could not have their way, they would start a revolution.

We have lately seen some striking examples of interference with the liberty of the individual by a secret society whose members go masked when they attempt to regulate the conduct of others. There are probably some members of this organization who are well-intentioned and who believe that they can remedy abuses in that manner. But, even if we grant this, the fact remains that the secrecy affords an opportunity for bad men to inflict intolerable oppression upon a community. If history has taught us anything, it is that the constituted authorities are the only ones that can safely be permitted to enforce the laws. Even if they prove recreant to their trust, we have lawful means of bringing them to account. Self-constituted authority is more dangerous than the evils it seeks to remedy. "What is freedom to a nation but freedom to the individuals in it?"

If the enforcement of law be called restraint, then we do need more restraint in this country. Evil-doers have no right to complain of the restraints of law, as good laws strictly enforced tend to give real liberty to the good citizen, because they protect him from those who would tyrannize over him. The best thing to do with a bad law is to enforce it until public sentiment is aroused to have it repealed.

* * * *

From "M. G."—What is the matter with our public schools? Are they worth what they cost?

Answer.—Thinking people will be glad to see that the Carnegie Foundation for the Advancement of Teaching has published a report which touches a matter of vital importance to our public school system, and which should receive wide attention. The substance of it is a warning that our elementary and high schools are becoming so expensive that

many municipalities find it very difficult to meet the increasing burden, and that in consequence elementary education is in danger of suffering. The reason of this condition lies in the fact that there has been a change in the conception of what the public schools are for. The attempt to fit the pupil for a trade or a profession has resulted in teaching a little bit of everything, and nothing thoroughly, losing sight of the idea that, what he first needs, is a fundamental intellectual background, a solid foundation to build upon. The system is expensive, not because it is *efficient*, but because it is *superficial*.

The place for special courses is in trade schools, of which there are too few. Anyone who comes in close touch with the pupils who pass through our grammar and high schools will find in them a deplorable lack of intellectual foundation. Pupils, who cannot write fair idiomatic English or spell correctly, have been attempting to take courses in retail selling, in the psychology of how to approach a customer, in advertising, in the principles of the labor question, etc.

The system of promotion in the schools does not favor efficiency in the pupil. He may make the required percentage on the total and yet be very deficient in some important branch. No matter how high a pupil's standing is in general, he should not be promoted so long as he is weak in the simple rules of arithmetic or in spelling. I have seen pupils who had got into high school and yet could not speak or write fair English, could not spell, and did not know the addition or the multiplication table well enough to be of any practical use.

Fewer studies, and those learned thoroughly, should be the standard for the masses. It is so self-evident that it seems absurd to state it, that every pupil in our schools should have a thorough training in English grammar, composition and spelling; in arithmetic covering the simple and compound rules, and fractions, vulgar and decimal; and that he should be able to write a plain and readable hand. This should be the very minimum attainment for every future citizen.

In addition, to make him an intelligent man, so that he may get some intellectual pleasure out of life and that he may be mentally equipped to take up special work, he should, either in the grammar or high school, get some knowledge of history, literature, natural science (especially physics) and of one or two languages. In this age of the world, a person is badly handicapped if he has no knowledge of physics. No matter what his occupation or profession is to be, he is compelled to use a knowledge of the laws of physics every day of his life. The above-mentioned subject should form the mental equipment of every intelligent citizen. If he has them, he is prepared to take up their application to any special subject or occupation; without them, he is handicapped in whatever he may undertake. They are the tools he must use if he is to do efficient work. Much of the special work now attempted is like setting a mechanic to work with poor tools.

It should not be lost sight of, either, that some of the special courses complained of require a maturity of mind not to be found at the age of the average high school pupil.

Umbilical Hemorrhage

"R. B. S." writes: I lately had a case of bleeding cord that puzzled me. I tied the cord as soon as the child was born, using a tape sold for that purpose. I am sure that I tied it tightly; and, yet, two hours later, I was called out of bed by a message saying that the child's clothes were soaked with blood. Is there any way of avoiding such an occurrence?

Answer.—Yes, there probably is. In the first place, tape is not the best ligature for tying the cord. I abandoned its use years ago after having a few such experiences as yours. The flat shape of a tape is where the danger lies. It is not so readily drawn tight as a round ligature is. It is liable to deceive the doctor into thinking that it is tight when it is not. A strong, pliable cotton or linen string is best. It should not be too thick, nor yet so thin as to cut the umbilical cord. I have for many years used common knitting cotton, twisting and doubling it to make it strong enough. To have a ligature break at the moment of drawing it tight, may have serious consequences. I knew of a case where the doctor, in drawing up the knot, did not sufficiently brace his hands, the string broke on one side, and the jerk given to the other side tore the umbilical cord off close to the body. The resulting hemorrhage was difficult to control, as there was nothing left to tie; and a pad is not very reliable.

Since I have been using the string ligature, I have not had any bleeding cords.

Sometimes, leakage is due to the gelatin of Wharton. When it is very abundant, it makes an unusually thick cord. Then, an hour or

two after tying, the gelatin may shrink enough to leave the ligature loose. So, when the cord is very thick, it is a good plan to cut it before tying, strip the jelly out thoroughly with thumb and finger, and then tie it.

When a cord leaks so as to require a second ligature, it is best to put the second one distal to the first; then you can tell at once whether you have stopped the leak. If you put the second one next to the body, you imprison a certain amount of blood between the two ligatures, which will continue to ooze for awhile, and leave you in doubt whether you have stopped the leak or not. Another sure way is to remove the first ligature before applying the second.

Constipation

From "W. S."—I have for years been troubled with indigestion and constipation. I know I eat too much, but my appetite is so good that I cannot resist the temptation. I notice that, when I eat moderately, my indigestion and constipation are both better. I am a little puzzled regarding the latter, for I would suppose that, eating less, I would have less bowel action. On the contrary, though, I have more. Is my experience the usual one?

Answer.—Whether usual or not, it is perfectly rational. The reason is not hard to discover. When you eat more food than is good for you, the stomach is overworked. Indigestion and fermentation result, the liver and the whole digestive tract become congested, the secretions are checked by the congestion, and constipation follows. On the other hand, when you eat in moderation, the stomach recovers its tone, the congestion subsides, the secretions are restored, and that relieves the constipation. In a nutshell, congestion dries up the secretions of the large intestine, producing the dryness of the stools; which means constipation. If you will conquer that demon of appetite, eat fruits and vegetables for roughage, and drink plenty of water (don't overdo it), your constipation will soon disappear.

Varia

From "W. C. R."—What is the meaning of "Giaour", and how is it pronounced?"

How is "Tut-ankh-ah-men" pronounced, and what does the old Egyptian's name mean? Where can I read all about the opening of the tomb and its historical value?

Answer.—"Giaour" is pronounced in one syllable, *jowr*, *j* as in jug, *ow* as in plow; the word rhymes with power pronounced in one syllable.

The meaning is 'infidel". It is a Turkish word applied by Moslems to Christians and Persians.

The old Egyptian king's name is pronounced *Toot-ank-ah-men*, with the accent on *ah*, *oo* as in foot, (not as in boot), *a* as in father, *e* as in pen. Most people pronounce the first syllable to rhyme with "but", as in our exclamation "tut! tut"! But it should be borne in mind that that sound of the letter *u* is not found in any language except English.

At present, the only source of information as to the value and importance of the find, is in the newspaper and magazine articles. No doubt, there will be books published later, but it will be after a considerable time. The inner tomb will not be opened before next fall, after the excessive heat of summer is over. Then the classifying of the contents of the tomb, and the deciphering of the inscriptions will take a good deal of time—a couple of years, at least—so Professor Breasted stated to a reporter. It is fortunate that so gifted a man as our own Professor Breasted, of Chicago University, will devote his time and labors to the task of elaborating the immense store of historical information which the tomb contains, and which will shed much new light upon the dawn of civilization in the Nile valley. About three years ago, he published a book with the title "Ancient Times", which is a very able and interesting exposition of what was known, at that time, regarding ancient civilization, both in Egypt and Asia. The book should be read by everyone who wants to make the most of the discovery just made. Professor Breasted is not only a skilled scientist but a delightful writer, and the book makes an excellent introduction to further reading on the subject. It is fascinating as a novel, and I found it so interesting that it was hard to lay it down before finishing it. It is a good preparation for understanding and appreciating the value of the discoveries that will follow the opening of the tomb of King Tut. To put those discoveries into a book, will be a task which could not be in better hands than those of Professor Breasted.

The king's name means "The Living Image of Ahmen". Ahmen was the sun-god, the chief deity worshipped by the ancient Egyptians.

* * * *

From "G. B. S."—I have lately, several times, heard the expression "Aren't I?" Is

it not bad grammar?

Answer.—Decidedly bad. The worst possible. It is one of those recent vulgarisms that are hard to account for except on the theory that there exists a class of people who take pleasure in marring anything beautiful, the English language included. They think, it is an evidence of independence to cultivate the grotesque and the uncouth. They belong in the same class with those travelers who deface natural scenery by scribbling their names on it. There is no excuse for this corruption of speech, because it is quite as easy to say "Am I not?"

It reminds me of a would-be friend who greeted me with, "How are thy?" No, I did not slay him, but I was sorely tempted. Let us all help to preserve the purity of our beautiful language.

Entomology

There was a naturalist—his friends called him a crank—who went about the fields and woods with a little net and a box. He caught butterflies and bugs and other things too numerous to mention. He arranged them in neat order on large cards. When he had accumulated a very large collection, he donated it to his Alma Mater. The local paper of the college town came out with a ribbon headline: "Blank College Gets Gift of 17,000 Insects! Student Activities Greatly Stimulated!"

Yes, it frequently works that way. When I was a boy at school, another boy brought to the school a large collection of insects. He did not have them pinned on cards. He did not take that trouble. There were not quite 17,000 of them; but, the rest of us boys found our "activities greatly stimulated." So did our mothers. It was then we learned the real value of fine-tooth combs. Also, we learned how to "read our shirts", like our boys in the trenches in France.

* * * *

I beg to remind my correspondents to observe my address as given at the end of each article, thereby saving time and trouble.

2920 Warren Ave., Chicago, Ill.

Dr. Alfred S. Burdick Honored

At the recent meeting of the American Drug Manufacturers' Association held in New York, April 16 to 19, Dr. Alfred S. Burdick was elected president for the coming year. Doctor Burdick is well known to the readers of CLINICAL MEDICINE, having been its Managing Editor for many years, prior to Doctor Abbott's death, after which he had to relinquish that position in order to assume the presidency of The Abbott Laboratories. Our congratulations are extended to Doctor Burdick on this merited recognition and to the American Drug Manufacturers' Association on the wisdom of its choice.

At the meeting referred to, important matters relating to narcotic-drugs' regulation, legislation, pharmaceutical progress, scientific research, medical chemicals, and other relevant topics were discussed. In the matter of narcotic-drugs' regulation, especially, constructive recommendations were made which, it is hoped sincerely, will aid in bringing the chaos now prevailing to a greatly needed close and establish equitable and just regulations.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

The "Small-Town Doctor" Exposed!

(To Get Ahead of DeKruif, Lewis, et al.)

HORRORS multiply! Ossa is piled upon Pelion and we, who have already been parboiled, are about to be roasted to a nice crisp brown. Moreover, *"some* cooks" have been secured to do the basting! The *big* chef will be our "old college chump," Paul DeKruif, and, as first assistant, he will have none other than the animated author of "Main Street," Sinclair Lewis.

It is said that these two whackfully witty and scorchingly sarcastic scriblerinos (superlative degree of Scribe, i. e., scribe, scribbler, scribblerino. *Siehst du?*) have hied them to the quiet village of London, England, where in peace (and plenty) they may together concoct a book which will for all time cook the goose of the Small-Town (American) Doctor. Lewis, it is to be assumed, will supply such atmosphere and "style" as the volume may possess, while Paul, emulating his sainted predecessor, will furnish the ravening revelations which will make our poor Medical *Anser* drip grease grievously!

Strangely enough, *Saul of Tarsus* (later Paul the Apostle) "kicked against the pricks" and, now, Paul the Apostate elects to kick the hicks from the security of that "right little, tight little Hisland" hof Hengland, from which he horiginally 'ailed. "O! 'Ell and my Aunt!" why is it that Albion gets *all* the pink-eyed albinos and ambulant atrocities? Now, here is DeKruif, himself "a (small) piece of land (there is a synonym if you search for it) entirely surrounded by water," shaking, in security, the hands of decent Britishers when he should be *here* where he can be "taken and well shaken" by the hands of those he has bitten.

Furthermore, from that secure retreat he proposes to bite us some more. "Our Medicine Men," one is given to understand, is to go into another edition and the more horrid secrets about us, not revealed in that fantastic fiction, are to be liberally and luridly ladled out in the forthcoming volume. If the man who man-handled the small American town and the "near-doc" who dod-gasted the Doctors generally can't between them dissect, dehydrate and dissipate into thin air the country practician, who can?

I am obsessed with the idea that I can beat them both at it—and to it! So, having *some* sporting blood and a permanent address where those I 'soak' may come and 'soak' me back again, I propose to here and now razz the Rascal till he's raw. I *know* him—I've witnessed his works—and I'll bet one perfectly whole ampule of Sherman's (No. 6) Vaccine (for Wooden Legs, Artificial Arms, Porcelain Eyes and Decrepit Dentures) that DeKruif and Lewis together know just as much about the real villainies of the "Country Doctor" as they do about decency *en deshabille!* Anyhow, I won't leave them a brick to throw—even the straw with which they manufacture their missiles shall be burned. I'll show those beatific birds that, what they have dreamed—or may dream—about "Doc," isn't one, two, three with what he really is. Come on to the execution chamber! And bring an extra "hanky" with you.

Ave Paul! (*et al.*) *morituri te salutant!*

The Devil-Doc

Somewhere between 1866 and '76 (and probably upon April 1st), there was born into this grief-stricken world and to the family of Potts, a male child, who, at the baptismal fount, was, by his fond but foolish parents, given the names Pygmalion Pennington; Pygmalion being chosen by Potts *père* because he had once read something about the Cyprian sculptor who fell in love with an image of his own creation; Pennington, because the other half of the creative corporation had, during her earlier (and non-creative) life, borne that appellation. That it was really necessary for Pygmalion Pennington Potts to have appeared at all, is distinctly a

moot point. Anyhow, there he was and something had to become of him. It is sad to relate that, during his very early childhood, he was known to his intimates as "Pee-Pee" and, still later, to the rude youth of the hamlet in which he dwelt, as "Pig-Pen." What could one expect from a boy under such circumstances? Could he possibly become something NOBLE—a Ph. D., for instance—when he already was P. P.'d so disastrously? Could he develop into a popular author with such a patronymic? How could "Rabbit," By Pyg. Pen. Potts, ever become a "best seller"? Impossible! The Army obviously would be no place for him either. "Private Pyg. Potts" would be abhorrent to the keeper of the regimental records and, if he were an officer and rose by merit (or otherwise), think how the rank and file would grin when "old Pig-Pen Potts" reviewed them! The Church—the "Pygmalion" settled that! Whoever heard of a Rev. Pygmalion? Nothing seemed to be left but a life of honest toil or—happy thought—the Medical profession! P. Pennington Potts, M.D., sounded perfectly scrumptious and if, perhaps, "Prof." could be used as a prefix, the public, allured by the alliteration, would flock to his consulting room like sheep to a turnip field!

Convinced of these facts and talking over their offspring's future in bed, one night, Pa and Ma Potts decided that, though the heavens fell, Pyg. should prescribe pills, plasters, purgatives and pessaries for the people. "Pa," said Ma Potts ecstatically, "I can see him now with a high hat and gaiters, feeling folks' pulses and maybe pullin' the teeth out of the head of that deetestable Marthy Robinson."

"Go to sleep, Woman," replied Pa, "and quit picking on that poor female; she'll probably be dead and buried before Pyg. gets a chance at her."

But, unfortunately, it so happened that, long after Miss M. Robinson had lost every tooth she ever had, P. Pennington Potts, M. D., did get "a chance at her" and brutally restrained her from playing a harp for seven long years—keeping her, meanwhile, on a strictly soft diet. Brutality was *bred* in the boy and, as shall be revealed, he became so typical a "Small-Town Doctor" that his history can be taken as a history of the entire class.

Pyg, then, grew in stature, if not in grace, and did all the things that the extremely common boy of the unspeakable small hamlet did do. He went shamelessly naked in swimmin'; he played Duck on the Rock, hookey, mibs and I-spy-it. It is even authoritively stated that, at the age of twelve, he played kissing games with *girls!* He went around bare-foot, with a rag around one toe (*unsterilized,* too!) and owned in flea simple a mongrel dog which he affectionately and ungrammatically called "He-ums." This animal he was known to have taken to be with him. Further, on many a sunny afternoon, when he could have been usefully employed, he spent hours carefully removing and cracking (upon a convenient stone) fleas from that cur's coat! He put goose-grease upon any sores it had and once poured down the poor tyke's throat an ounce of castor oil. He thought it might remove a bone the dog had swallowed. The thought was preposterous but, by some strange coincidence, bone and oil made their reappearance at about the same time. The impression this made upon Pyg. was never entirely effaced. NEVER did he quite lose faith in the possible (nay, *probable*) efficacy of ol. ricini. Adult patients might protest, children might shriek and shiver; but, when P. Pennington Potts, M.D., had an idea that castor oil "would work," it went down and—usually—through! *That* is the kind of devil, Doc was. If he thought he knew a thing, he KNEW it, and all the elegant pharmaceuticals so carefully brought to his attention were slighted while he pursued his own Pyg.-headed way.

One cannot, unfortunately, follow this abandoned wretch through his remaining lay years. He worked some, fooled around a whole lot and finally went to college. There, with fellows of his own caliber, he learned something about Anatomy—(he had very smelly cadavers to work upon), Physiology, Biology, Osteology, Pathology, Chemistry, Obstetrics (on a phantom), Gynecology, G-U diseases, (fortunately, his instructor in this branch made him learn to pass sounds on himself), Materia Medica and Therapeutics, and Surgery. There were many other things, but, by the time Pyg. Potts had passed with credit in these, he thought no small potatoes of himself and, at the end of his second year (they only had three then), felt perfectly competent to tackle anything which might come along.

Now, Pyg had a "perceptor" and "rode his rounds" with him. This wise old wretch put Pyg up to a lot of things he might never have been guilty of otherwise. Indeed, he stood by on more than one occasion and let Pyg, with his bare hands, remove a living, breathing, Christian child from its

anguished mother. Then, as the end of the third year approached and Pyg Potts was about to become P. Pennington Potts, M.D., he handed him, one terrible night, a glittering pair of Hodges forceps and told him to "go up and get it." P. Pennington (Pyg no longer) *did* "go up" and *did* "get it" and, later on, put eight stitches in a perineum he wilfully and knowingly had incised. "Better that, my boy," the heartless Preceptor had said, "than a complete laceration." And Potts believed him and did the same thing several times aftewards. Further, he was told that it was up to *him* to do whatever had to be done and not trust to someone else and, therefore, for years and years and years, the wretched and misguided man guillotined tonsils, lopped off fingers and toes—even arms and legs—and, on more than one occasion, invaded the abdominal cavity alone, right in the patient's own house. And that without any trained help. Give P. Pennington Potts some carbolic acid, tincture of iodine, iodoform, gauze, bandages, a bistoury, scalpel and a couple of pairs of forceps and what he wouldn't do would surprise you. He has been known to work with a pocket knife, a pair of domestic scissors and a spool of thread. The bloody work was subsequently covered over with strips of an old sheet wrung out of boiling water and hurriedly ironed. Did he—in his earlier days—have a cat-fit if he saw pus? He did not, but went right along washing it off with carbolic and (if necessary) trimming off exuberant granulations with a pair of curved scissors. Sometimes, he even used nitrate of silver. THAT is the kind of a man P. Pennington Potts was.

The full horror of his surgical procedure may perhaps best be illustrated by describing a single case. Upon a hot June day, one William Smith, a most estimable farmer, fell in the hay field upon a scythe-blade, and, when he arose, found most of his intestines protruding through an eight-inch wound in his abdomen. Holding these in his hands, he managed to reach his house and there lay, with a wet towel over the bowels, while his son rode to fetch "Doc." It so happened that he ran into that personage a few miles from the farm but found him minus everything but a medicine case. Did that Devilish Doctor hesitate? Did he go seven miles farther and secure from his office the proper sutures, antiseptics and half a hundred-weight of instruments? Did he send post haste for some surgeon of great repute or two trained nurses, an internist and bacteriologist to medicate, investigate and speculate (No, Mr. Printer, *not* "peculate"—he did *that* himself). He did not do any one of those essential things but, "wickedly, feloniously and with malice aforethought" turned right round and galloped his suffering horse like h.... to the scene of disaster. There he ordered hot water, made up some carbolic solution and laid violent hands upon a couple of sheets. He examined the protruding intestine, washed off the coils, anointed them with lard, put them back in their proper place (at least, he said he did, and, as the man he put them in lived for many years in perfect comfort, he must, by the grace of God, have done so), and then sewed up the gaping incision with a carpet needle (boiled) and some waxed black thread. The peritoneum he had first brought together with a cambric needle and sewing silk. The other stitches were "through and through." He "tied up" that man's bowels with opium for three days and then administered a turpentine-and-soap-water enema. It worked! The man—because he was a "rugged farmer", perhaps—was up in three weeks and, that season, helped with the harvest! THERE is "criminal ignorance and devilish disregard of all the Decencies" for you. But, what could you expect of a Pyg Potts? What more could you hope for from any of the Small-Town (or "rooral") rubes? What, indeed! And, to complete the disgrace, P. Pennington Potts charged that man $50.00! That he waited months to get that, was doubtless "a judgment upon him"; for, "God moves in a mysterious way his wonders to perform." Maybe Paul has been selected to wipe utterly, with Hearst's able assistance, this breed of men from the face of the earth. Here is more ammunition for him—or them.

P. Pennington Potts, M.D., had—in his earlier days—a very limited materia medica. He gave calomel in 5-grain doses on very little provocation; he thought that 10 grains of quinine "broke chills" and fairly poured out paregoric when bowel troubles arrived with the summer months. Bismuth he gave freely and ipecac and syrup of squills were always with him. Basham's mixture, good old Blaud, and Blue Pill, wine of aloes and ergot were to him "arms of precision", and chalk mixture, turpentine liniment and mustard plasters became household words wherever he went. He believed, benighted being, in emesis, purgation and sweating, and, with a dim foresight of what was to come, he would, now and again, starve his unfortunate pa-

tients for a day or two. He treated "rheumatism," believed that he could tell membranous croup from diphtheria (as if there was such a pathological entity as "croup"), and was quite apt to call pneumonia "lung fever." He tested urine with litmus paper and carried an absurd pocket kit with which (to "fool the patient," of course) he made tests for albumen and sugar at the bedside. Satisfied with his findings, he thereupon dispensed or prescribed and went on his way serenely confident that he had done his duty. Think of it: He had no idea of the blood pressure, nitrogen output, or total excretion of solids!

Yet, his percentage of recoveries was large and his patients' bills small. So Divine Providence tempers the wind to the shorn lamb.

As the years passed, P. Pennington Potts found new men coming along with new and, often (to him), indefensible methods. For instance, he was so stupid that he could not for the life of him see why every "belly-ache" necessitated an appendectomy. He was so uncultured that a few "bugs" in the urine did not, in his judgment, demand the immediate preparation and use of a bacterin. He hesitated to inject extraordinary combinations of drugs direct into the circulation and fought like a wild steer when someone suggested that a drop of the patient's own blood properly "potentized" possessed remarkable curative properties! He adopted many things, it is true, and became a rather ardent believer in asepsis as against antisepsis; but he still refused to install a trailer to convey his obstetric outfit and had a private opinion (often publicly expressed) that the average trained nurse was more of a nuisance than a blessing. Stubbornly he pointed out that, what had served him and his patients well for twenty or more years, would serve very well today; that a lot of things, which he was told "were so" last year and the year before, were no longer accepted and that, to run off the well-marked right-of-way on the slightest pretext, was a procedure usually fraught with disaster to somebody and he did not propose to bring disaster to those who trusted him.

That is the kind of Fool he was—and Is, for that matter. "If," said he, "Smith wants to do rectal surgery, let him do it, but don't let him tell me that all my patients have inflamed papillæ or wheezy valves. I simply refuse also to believe that every pain in the region of the cecum calls for the removal of the appendix, any more than I used to believe that every other woman was a fit subject for ovariotomy. In all my practice, I have never seen an acute infection marked by hyperpyrexia where the condition of the patient was not materially improved by the intelligent use of antipyretics and, though I am prepared to admit that fever may be a defensive reaction, I for one prefer to keep the thermometer reading below 103° F. Nature is a dear and kindly old soul, but she blunders like the dickens sometimes and needs gentle coercion. My main idea is to save my patients not only from Death but from unnecessary pain and expense and, so Help me, I'll stick to the ways I Know to be Sound and Safe."

That is the kind of selfish, ignorant and egotistical Ass P. Pennington Potts is and, what *he* is, half the general practicians of this country *are!* They just won't be "strictly scientific and up to the minute," they won't even adopt the Lipoids right off the reel; and, tell them something about the gonococcicidal power of the flavines, and they'll say, "We'll wait a while and see before we start a yellow peril around the home town." In short, P. Pennington Potts learned the things he Knows slowly and he has an idea that experimentation should be done somewhere else than on his patients. Which, of course, is a most archaic and unreasonable attitude to take. But, then, what could one expect from the Small-Town Practician But Mulish Mediocrity. For over a quarter of a century, they've been keeping a fair proportion of the people alive and reasonably active and happy, and they are not going to sit up and learn *all* the new tricks—not while the old ones prove perfectly effective. Moreover, P. Pennington Potts, M.D., very firmly believes that the General Practician is Not "gone" or even "going"; but that, very soon, he will be recognized as The Doctor and the other fellows, specializing along various lines, will work under his direction.

Now, if that isn't an indecent frame of mind, what would you call it? Further, if I haven't succeeded in here exposing the nakedness of the Small-Town Practician so thoroughly that the DeKruif Klan won't be able to find a square inch of cuticle to show up, I'd like to be shown what I've missed. But, to make the Destruction complete, I am going to relate the final damning facts *in re* P. Pennington Potts, M.D. .

Into the humble burg which is, of course,

everlastingly disgraced by his mere presence, came, not so long ago, an *superpractician,* to-wit, G. Maximus Fizzer, M.D., D.O., D.C. (I think he put the M.D. first, but can't swear to it), who announced that he was a Student of Freud, an ardent admirer of Coué and an adherent of Abrams. He carried with him always a Freudian Dream-book, a supply of Coué rings and little beads upon a string which are counted, saying *"ça passe, ça passe, ça passe,"* faster and faster, till the beads were all told or the pain had gone. Also he was in constant communication with the spirit of Chief Sit-On-The-Grass, a Ute warrior, who was never known to bathe and had three old and two young squaws at the time of his death. No one kept any count of his papooses. This lusty old Lo could be depended upon to work when Freud and Coué foozled. Indeed, G. Maximus Fizzer, etc., etc., was some PRACTICIAN—the only thing he wasn't was a "Healer." For some reason, he did not admire the Eddy-ites. Anyhow, he took the town by storm and, when he wasn't discussing her Dreams with some matron, he was adjusting the spine of some maid or pulling the leg of some male citizen. Fizzer never "pulled the leg" of a female patient. He held that it was not professional. He stroked them. Soon—very, very soon—of course, P. Pennington Potts heard what won-der-ful things Fizzer (G. Maximus, etc., etc.) was doing and immediately showed his lack of intelligence and ill-breeding by dubbing him a "fraudulent quack." In vain, ladies assured him he was in error. In vain, they explained to him that Fizzer had told them that, when they dreamed, they were sweeping with a new broom, they were evidencing a very delicate complex. Little Miss Jones (fat and fifty) confessed to the doctor that she had dreamed of being an apple about to be dropped into the cider press, every night for ten years, and that Fizzer (G. Maximus—and please don't ask me what the "G" stands for!—Figure it out) had shown her that she really *wanted* to be pressed and would continue to do so till her fourth lumbar vertebra was adjusted, pressure, under existing circumstances, being exerted upon a sex center. The adjustment was made and, now, she dreamed she was a pear! What more could one ask?

And, still, that unlettered Potts scoffed and even stormed. His final discomfiture came about this way. A matron, already the mother of five children, developed signs of again increasing the population and sought the advice of Fizzer. That marvel of Medical Men went over her with calipers and tape measure, consulted his Freudian dream book and inscribed in a massive tone the patient's past history—both diurnal and nocturnal. "Come again in one month," he told her, "and I will by that time have had opportunity to consult my control, Chief Sit-On-The-Grass. From him, we will learn everything. In the meantime, wear this beautiful Coué ring and chant, "Day by Day," etc., "morning, noon and night. Twenty-five dollars, please. Thank you; *au revoir.*"

In one month, the lady returned as directed and was informed that Sit-On-The-Grass guaranteed her a son exactly at midnight December 24. As she had already five girls, this was distinctly delightful news and the date was awaited with impatience. About ten days before the appointed time, P. Pennington Potts chanced to meet her and, struck by her ponderosity, so to speak, asked when she expected things? She told him just what Fizzer had told her and Potts had to sit down to laugh! He asked permission to apply a stethoscope where it would be most useful and, to confound him, the lady consented. She couldn't help remembering that he had brought all her other children into the world. "Ha!" said Potts, "you'll be almost ready to get up on the twenty-fourth and you tell that Fizzle that there's two of a kind." That evening, things began to happen and, by some ill-chance, Fizzer (G. Maximus) was out of town "adjusting" the spine of a poor soul who had suffered from osteomyelitis for ten years. He was buried (coincidence, merely) on the day of the christening. (The poor soul, of course; Not Fizzer.). But I'm getting too far ahead. Under all the circumstances, what could P. Pennington Potts do but officiate, and what did he do—ignorant and malicious wretch—but produce triplets, ALL GIRLS! If that wasn't enough to prove his inferiority and unreliability, it ought to have been; indeed, so evident was it to G. Maximus Fizzer that he declined to stay in the same town any longer. Especially as he had noted an ominous crackling when he had "adjusted" that spine. P. Pennington Potts—plain M. D.—did what he could for the unfortunate man but he died—and Potts signed the death certificate!

Could DeKruif, think you, with all his assistants (and *ance*) add one iota to this damning indictment? I wot *not.* You *know not!*

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from April Issue, p. 291*]

Cicutine vel Coniine

Alkaloid from Conium maculatum.

Physiological effects: — Cicutine diffuses readily into the blood. What changes occur there, is not well known; the probabilities are that it inhibits, to a certain extent, the oxygen-carrying power of the red globules to the motor nerves, upon which it exercises a selective action. The lower extremities are first to manifest the effects of cicutine by a sense of weakness, weight and fatigue which may be overcome by locomotion. The eyelids become heavy and a partial ptosis occurs; the vision is confused, the mind inactive, followed by giddiness and lowering of temperature.

The prime seat of action of this alkaloid is in the peripheral ends of the motor nerves; next, the nerve-trunks; and latterly the spinal cord. Upon the sensory nerves, cicutine appears to exert a direct paralyzing influence, which is local and does not emanate from the nerve centers. A small dose affects the cord before the motor nerves; the reverse occurs with a large dose.

Therapeutics:—Useful in chorea, undue excitement of the motor centers occurring at or near the period of dentition. Mercurial tremors, nocturnal cramps of the limbs, muscular convulsive action, spasmodic cough, as in whooping cough, laryngismus stridulus, organic or functional derangement of the spinal cord, in uterine and ovarian diseases and especially in relieving the pain in cancerous growths and painful diarrheas.

Dosage:—1/64 grain every 15 to 20 minutes until effect in acute cases, and 2 granules every two or three hours in chronic cases. Watch the results and do not push too rapidly.

Cicutine hydrobromide

The physiological effects and therapeutics of this salt are the same as those of the alkaloid given above, and it is strongly recommended in place of the alkaloid.

Dosage:—Same as the alkaloid and the same remarks apply.

Cocaine

An alkaloid from the leaves of Erythroxylon Coca.

Physiological effects:—Prolonged use of moderate doses lessens the salivary secretion and lowers sensation in the mouth, esophagus and stomach, causing weakness in the legs, dilated pupils, irregular pulse and respiration, higher temperature, a dreamy state of mind, disturbed sleep, aphonia, unsteady gait, pleasant or frightful hallucinations, and delirium. These are especially evident after a coca debauch.

Notwithstanding its general use as a local anesthetic, the physiologic action of cocaine is not well understood or comprehended.

In a non-mortal poisoning case, somnolence, colicky pains, obstinate vomiting, vertigo, anemia, a sensation of burning and intense thirst were observed (Ploss). Experiments show a similarity of action with Cannabis Indica and prove that it is a narcotic, exciting a direct action, primitive and stimulant, upon the brain (Fronmuller, Tarchanov, Ploss).

Von Anrep and Nikolsky first announced cocaine as a mydriatic. It at first stimulates the nerve centers, then the highest psychomotor cells of the brain, later the bulb and finally the spinal cord.

The alkaloid has already proved itself useful in ophthalmic surgery, and with brilliant results. Nor has its use been confined to the eye.

Cocaine is almost entirely destroyed in the body, even in the urine, traces are rarely found.

Synergists:—Caffeine excites the cerebral cells and the muscular system. Strychnine increases excitability of the spinal cord. Cicutine and brucine, as well as yohimbine, produce local anesthesia and analgesia. Atropine paralyzes the cardiac nerves and dilates the pupil. (Waugh and Abbott.)

Incompatibles:—Hydrochloric acid breaks up cocaine into ecgonine, alcohol and benzoic acid (*iidem*).

Therapeutics:—While there are many cases in which cocaine has been used with good results, it is too dangerous a drug for general use, because of its insidious habit-forming propensity and, if the practitioner sees fit to employ it at all, as an internal remedy, he should observe the utmost caution in keeping the knowledge from his patient.

As an application to mucous surfaces a 2-percent solution, freshly made, is recommended; it is valueless applied to the cutaneous surfaces.

It is used subcutaneously along the lines of a proposed operation, or injected at some part so as to come in contact with the nerve trunk at whose distribution anesthesia is desired. Injected into the spinal canal, anesthesia of the entire lower extremities, including the pelvic organs, is induced.

It is needless to further consider the therapeutics of this drug, by reason of the danger already referred to and as an analgesic and local anesthetic it has been superseded by eucaine, procaine, butyn and other preparations which are not subject to the objections to cocaine.

Dosage:—Locally a 2-percent solution freshly made. Internally 1/128 to 1/64 grain, as required, if used at all.

Codeine

One of the alkaloids from Papaver somniferum.

Physiological effects:—Various investigators give various accounts of their findings, but all agree on one point, to wit: that, in moderate doses, it is hypnotic and that it does not constipate. In large doses, it excites, causes agitation, headache, loss of appetite, nausea, vomiting and may lead to convulsions. It depresses the brain less than morphine and stimulates the cord and medulla more. The respiration is not so much slowed and may even be accelerated. It is similar to morphine but much milder in action. The hypnotic effects, though less certain than those of morphine, are not so apt to produce overstimulation or disagreeable aftereffects.

Therapeutics:—Useful in incipient bronchitis, laryngitis, tracheitis, in connection with iodoform. Also in enteralgia, enteritis and the nervous affections of teething. Controls cough, allays restlessness and pain and produces sleep. It is a much less risky agent in infantile practice.

Dosage:—1/64 to ½ grain repeated as needed. The sulphate is to be chosen in practice rather than the alkaloid.

Codeine sulphate

The same physiological effects and therapeutics apply as to the alkaloid as given above.

Dosage:—1/6 to ¼ grain administered every 15 to 30 minutes, until effect. The small dose often repeated is to be preferred. For children, give in sweetened water.

Colchicine

Alkaloid from Colchicum autumnale.

Physiological effects:—Increases the secretions of the mucous and intestinal glands, extending its action to the kidneys and skin. In the stomach, colchicine promotes a sensation of heat and nausea, causes vomiting, which is preceded and accompanied by a depression of the cardiac action, headache and muscular prostration. Alvine evacuations with colic, and of a copious watery character, occur, which suggests an increased biliary secretion; at the same time, the kidneys and sweat glands are rendered more active.

Therapeutics: — Useful in inflammatory rheumatism, chiefly acute; in gout and all affections due to a gouty or rheumatic diathesis.

Dosage:—1/128 grain: given every fifteen minutes in acute attacks of gout and pushed until diarrhea is produced, at which time relief will be obtained. In chronic cases, the same dose at longer intervals in conjunction with the salines.

Colocynthin

A glucoside from Citrullus colocynthis.

Physiological effects:—In small doses, it is a tonic and stimulant to the liver, the muscular and glandular appendages of the intestinal canal, and acts as a vermifuge. In large doses, it is a gastrointestinal irritant toxin, which provokes gastroenteritis; its effects are not infrequently fatal.

Therapeutics:—Useful in atonic dyspepsia, intestinal torpor, habitual constipation and to remove intestinal parasites.

Dosage:—1/128 grain, 1 to 3 granules, three or four times daily.

Condurangin

A glucoside from Marsdenia condurango.

Physiological effects: — These are most marked on the central nervous system. Small doses disturb coordination, the movements becoming ataxic; there is great debility and marked impulse to move about. Respiration and pulse are unaffected, the pupils normal, the tendon- and cutaneous-reflexes somewhat heightened. The appetite is diminished or

stopped. Salivation and emesis frequently occur. Large doses excite primarily, and paresis ensues. There is a peculiar stiffness of the extremities. Violent cramps follow, at first tonic, then clonic. Respiration becomes shallow, the pulse rapid, the stiffness relaxes, the cramps subside, and paresis supervenes. Consciousness and sensation seem to be unaffected. The pupils dilate during the cramps, but are normal in the interval. Respiration is retarded and superficial, the pulse small, and death occurs during a convulsive spasm.

The lethal dose for cats, dogs and rabbits, by the stomach, is from 0.040 to 0.048 Grams per kilogram of body weight.

Therapeutics:—Condurango has been used with more or less success in the treatment of gastric ulcers and gastric and esophageal cancer. Brilliant results have followed its use in gastric ulcer. Where anemia preceded the malady, iron was used in combination.

Relapses were mild and of short duration. In acute and chronic gastric catarrh, good results were obtained.

In the treatment of cancer, while pain is materially reduced, the appetite improved, vomiting decreased and in some cases a gain in weight has been noted the final results were negative.

However, it has been established by post-mortems that in most cases the tumors have been markedly decreased in size.

Dr. Waugh naively remarked: "Seemingly, it has occurred to no one to use any of the bodies derived from condurango hypodermically, injected into the cancerous tissues."

Dr. W. K. Clark reported a case in which an exploratory incision was made and revealed a carcinoma, completely enveloping the pylorus. The wound was closed and the patient left to die. He put her on fluid-extract of condurango, beginning with ½-dram doses, gradually increasing until, within a month, she took 2 drams every four hours during the day. By the time the wound was healed so that the patient could leave her bed, she could eat anything she wanted and was gaining flesh daily.

She continued taking condurango for six months. The dose finally being reduced to a teaspoonful three times a day. At the end of six months, she was apparently well and, three years afterward, the doctor reported his patient, who was his own mother, as living and enjoying the finest health, her digestion being better than it had been for ten years. (Waugh and Abbott: "Alkaloidal Therapeutics.")

In view of the present activity in the endeavor to fix the etiology of cancer and the assertions of some that cancer may be cured by the use of medicine, while the surgeon insists that the only hope of cure is early extirpation by the knife, would it not be well (in view of the extended use of condurango with positive assertions as to its favorable action) to test out the suggestions made by Dr. Waugh, viz, the use of the alkaloid in this class of this, heretofore, fatal disease?

Dosage:—1/64 grain, every two to four hours by the stomach.

Convallamarin

Glucoside from Convallaria majalis.

Physiological effects:—The normal arterial pressure is augmented, generally with slowing of the pulse. This increased pressure continues while the pulse becomes faster than normal. In lethal doses, the pressure falls swiftly and, the heart action being arrested, the subject dies.

Therapeutics:—Useful in diseases of the heart, especially those of the mitral valve. When compensation fails, convallamarin strengthens the heart, increases the excretion of urine, and quickly relieves dyspnea and palpitation. In angina pectoris and functional affections of the heart, it has also proved beneficial (Waugh).

The place of convallamarin is: that it replaces digitalin in the whole line of its action and uses, and it may be used as an alternate with digitalin.

Dosage:—1/12 grain, three or four times daily.

Copper arsenite

Physiological effects:—This salt is a valuable disinfectant to the intestines. In overdoses, it causes heat and irritation, as manifested in other forms of arsenic. This is particularly observable in the duodenum where it exercises its special activity, and in the small intestines, since it is here that the drug is eliminated.

Therapeutics:—Copper arsenite is recommended as a remedy for seasickness, 1/100 grain before meals; in bilious attacks, 1/1000 grain in hot solution in half-hourly doses proves almost specific. In gleet, 1 grain in 4 ounces of water, as an injection, is curative. The most important use, however, is in cholera infantum, dysentery, summer diarrhea of children and the diarrhea attending typhoid fever.

Dosage:—1/1000 to 1/100 grain as suggested. The writer has found that the latter cases quoted are best treated with 1/1000

grain given every 15 to 30 minutes until effect, and he can say that he has never been disappointed. This is especially true of the summer diarrheas of infants with greenish offensive stools.

Cubebin

The resinous principle of Piper cubeba.

The chief use of this drug is in disorders of the urinary passages. It also acts as an expectorant and has been used with beneficial results in bronchial asthma.

Therapeutics:—Probably the most general use of cubebin is in the treatment of gonorrhea, where it acts kindly as a diuretic and its non-irritating, stimulating action is decidedly beneficial. It is also recommended in vesical catarrh, in catarrh of the colon and rectum, as well as in chronic bronchial catarrh.

Dosage:—1/64 grain, with arbutin, ½ grain every three hours.

Delphinine

Alkaloid from Delphinium staphisagria.

Physiological effects:—Taken by the mouth, delphinine causes a tingling and burning sensation of the buccal mucous membrane and the pharynx. The secretion of the muciparous glands is increased, also that of the salivary glands. Taken into the stomach, delphinine produces nausea, vomiting and diarrhea. All these symptoms may be noted after small doses and further use of the drug should not be pushed in such cases.

Delphinine shows a strong resemblance to veratrine, aconitine and curarine. The loss of excitor-motor power of the cord seems to be the prominent feature in the action of this drug.

Toxicology:—The antidotes are tannic acid, coffee and potassium iodide.

Therapeutics:—Judging from the description of the drug in the "American Encyclopedia," the only use made of the crude drug is as a powder of the seeds applied to the scalp for the destruction of head lice, and this is confirmed by some of the older textbooks. Notwithstanding this rather menial office, the alkaloid, delphinine, finds ardent supporters in its appreciation to the treatment of diseases of the renal and genitourinary organs, such as gonorrhea, amenorrhea, leucorrhea, prolapsus uteri, etc. However, it is contraindicated in acute inflammations, as tending to produce strangury and an increase of the local trouble.

Delphinine has a special field in neuralgias and painful nervous conditions, also in various convulsive troubles. In facial neuralgias, aconitine is the choice, but in sciatica and other painful conditions of the lower extremities, delphinine would be the choice because its abolition of sensation is more powerfully exercised upon this portion of the body.

The drug is worthy of trial in all convulsive conditions depending upon irritability of the spinal cord; to wit, chorea, tetanus, epilepsy, hysteria, and positively in the poisoning with strychnine.

Dosage: 1/128 grain every 15 minutes to effect, then every one to three hours as needed.

Diastase

An enzyme from barley and other cereals when in process of germination.

The selective action of diastase is the conversion of starch into sugar, but this action is only partial, as dextrin remains to be disposed of in the digestive tract. It is an established fact, however, that it is a powerful adjuvant to trypsin.

Therapeutics: Useful in certain forms of indigestion styled amylaceous, best given at the commencement of the meal as an excitant of digestive action. Its perfect action is observed only in an alkaline medium, although it is certain that it is consumed or otherwise acted upon by the gastric juices.

Dosage: 1/6 to 2 grains as required, preferably before eating.

[*To be continued.*]

DR. BRYCE'S TALK

Collecting Fees

When I was in my first year of practice, a case of oblique fracture of the femur, in a very poorly-developed youth of sixteen or seventeen, fell into my hands. The fracture was a long oblique one in the middle third of the bone and, having had no experience in the management of such cases, I unfortunately took the advice of an old practitioner, who really knew very little more than I did, and put the leg up in an improvised Smith's anterior splint which was theoretically both safe and comfortable, but was the cause of much trouble to both, the patient and myself, subsequently.

This boy's father was one of these rather inventive geniuses and got up the splint, as I directed him, with a few little suggestions and improvements of his own thrown in. This case dragged on for the usual six or more weeks, when I removed the splint and bandages to find one of the most disappointing results one could possibly anticipate. The poor

boy's leg appeared about three inches shorter than the other and its circumference over the seat of fracture twice as great as on the opposite side. It was an awful demonstration and I was completely demoralized. I simply looked at the boy and his father looked on without comment at first, while the boy looked alternately at his thigh and at his father and then at me.

I was the first to break the distressing silence, and I did not hesitate to say that it was a very bad result. The father was a shrewd old fellow and belonged to that class who would profit by a doctor's blunder if he was easily bluffed.

"Well", said he, "what are you going to do about it?"

If I had properly interpreted his question, I should have known that the old man was out for meat, and my meat at that, but I considered it more as a friendly query as to what, if anything, we could do to better his condition.

I told him that a certain amount of shortening in fracture of the thigh was almost unavoidable in the best managed cases, and that, as his son was very poorly developed and almost rachitic, probably the best thing to do would be, to give him a raised shoe and turn him loose.

I thought the old man considered this to be the best, and accordingly looked upon the case as ended. Nothing was said about settling the bill when I took my departure, so, with the first of the month, I mailed the boy's father a modest bill of $25.00 for a very unsatisfactory job from my viewpoint. He paid no attention to it and next month I mailed him another. He sent me half. Next month, I mailed him a bill for balance due, and he sent word that he thought he had paid all that he should pay under the circumstances. Now "under the circumstances" put me to thinking, and yet I knew very well what he meant and I felt that he was about right.

My next move was inspired by the suggestion of an old physician, who gave me very bad advice, though probably well meant. He told me that "under the circumstances" was practically a charge of malpractice. If I did not press my claim, I should be admitting it, and that it would never do to start my professional career by being bluffed by such a charge.

Here was where I made a big mistake. I knew, I had an awfully bad advertisement of my skill in the person of the unfortunate boy whose thigh I had set and allowed to shorten to an unpardonable degree; the old gentleman had made no public charge against me of malpractice, and, at that time, he would have been willing to call everything square and be friendly for the balance of my bill or the sum of $12.50, if estimated in cash. I did not stop to realize that I could not have possibly selected a better way to advertise my very bad surgery than to have this boy exhibited in court before a jury as a defendant.

I should have been satisfied to have gotten off without having to defend myself against a suit for malpractice, and should have known that I had no case that I could carry into court. But I was young and pugnacious and promptly warranted him in the magistrate's court. The trial consumed several hours, brought out a good deal of feeling, and finally gave judgment in my favor. I was not the only one whose fighting blood was up, for the defendant promptly noted an appeal to the higher court.

At this stage of the game, there was nothing at stake more than my judgment for the amount of my bill and the court costs, which were insignificant; and here is where I lost a great opportunity to save myself much trouble and expense, long litigation, bad feeling, and, worst of all, a very wide advertisement of a really badly treated fracture with unpardonable deformity.

When the case was called in the higher court, I was not prepared for the surprise that the defendant had awaiting me. At the trial in the magistrate's court, the boy had walked fairly well without a raised shoe and his pelvis with its adjustment allowed him to get about with a very moderate limp. But, when I met him at the court house before the case was called, my attorney grasped me by the arm and called my attention to the underpinning that had been put under that boy's foot since we last saw him. Sure enough, his father had supplied him with one of the highest cork shoes I ever saw. It was far higher than necessary to compensate for the actual shortening of that unfortunate thigh, and the poor boy actually had to keep his leg slightly flexed to keep his knee from getting in front of his face.

My lawyer was so disconcerted by this apparition that he informed me candidly that he was afraid to carry the case into court until he knew just exactly how much shortening existed in that thigh, and what the authorities allowed as unavoidable under poor conditions. I felt that he was right, and for the lack of two important witnesses we were granted a

continuance until next term of court.

During the interim, I met the boy away from his home one day and asked him if he objected to my looking at that thigh and getting the exact degree of shortening that existed? I forgot to state in the beginning that this was one of my country cases when I first commenced practice, and settled down in a rural community because I could not afford the expense of a city practice. The courthouse was fifteen miles from my home, and it meant considerable cost and trouble to collect all the necessary witnesses and experts; and every time the case was continued, it entailed additional cost and worry. The first continuance was asked for by my counsel, and, when the case was called again, we hoped it would come to a trial. In the meantime, as the boy was inclined to be friendly and expressed his willingness to let us measure his leg, he met us at the country store and allowed me to strip him and run the tape line over the doubtful territory. To my great satisfaction and astonishment I found but one and three quarters inches difference in length of the two legs, and the enormous thickness over the seat of fracture that I took for overlapping was more due to overabundant callus. The shoe was full four inches raised, though the boy said he wore an ordinary shoe except when he went away from home.

My lawyer secured one or two witnesses who had seen the boy going around comfortably and keeping up with his companions wearing his ordinary shoes. With this evidence, he felt ready to proceed. Accordingly, I had all of my witnesses and two experts from Richmond at court when the next term opened; but, to my discomfiture, the wily defendant gave me a jolt by asking that the case be continued in consequence of his son's being sick in bed. Of course, the judge had to grant it, and I realized that this continuance game was something that two could play at. The old fellow had made up his mind to make the suit cost me all the trouble and money that he could and, as my fighting blood was still in the ascendency I determined to see him through.

This case dragged on in the court for nearly ten months before it was finally decided. When I counted up the results and the costs, I had learned a lesson that kept me out of courts as a plaintiff for many years. I realized that, instead of suppressing any possible charges of malpractice, my bugbear, I had given myself the very broadest kind of advertisement of my unsatisfactory work. I had lost much valuable time and money and, although the jury were kind enough to bring in a verdict in favor of my claim for that miserable $12.50, it did not bring me much satisfaction in another way. For, while it vindicated my claim to having given the boy average results under the circumstances, they did the unusual thing of dividing the court costs between plaintiff and defendant. So it turned out that, while we were both trying to run up the costs, hoping to punish each other if the case went against our adversary, we actually were piling up costs on ourselves.

I think, my part of the costs amounted to about $180 which, added to what I had already expended, made that suit cost me nearly five hundred dollars, to say nothing of loss of time, and worry. About the only satisfaction either of us got out of this litigation was the knowledge that we made each other pay pretty well for the game.

Now that I have had some experience that I have paid for, I can see where I might have acted very differently and avoided much trouble and expense.

In the first place, I should never have admitted that the results were unsatisfactory until I had carefully measured the leg. Secondly, knowing that it might have been better treated, probably, or that it looked worse than it really was, I should have been slow in forcing the fight on the old gentleman who had at least met me half way in settlement.

My greatest mistake consisted in losing my temper and fighting, not for my fee, but for spite and obstinacy where nothing was at stake.

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Years after the case mentioned, I had occasion to collect a bill and get even with a bad man in a more satisfactory manner. I had treated a gambler, and a very tough citizen he was, through a long and serious illness. When he had recovered, and I presented my bill, he paid no attention to it and, finally, reached that degree of unwillingness to pay that caused him to tell my collector that it was useless to annoy him further, as he could not make it at law. I told the collector to endorse on the back of the bill the substance of his last talk in refusing to settle it and put the bill among my keepsakes. This man made money at his gambling joint, lived well, dressed well and could have paid me and never missed the amount. But, he was a thief and a dead-beat and bragged about his shady dealings instead of being ashamed of them.

Five years passed and he had long ago dis-

missed me and my unpaid bill from his mind, but at last my chance came. One night, about two o'clock, I was aroused by shouts under my window urging me to come down and render aid to a wounded man. The moon was shining and, as I looked out, I saw four or five men bring a man in my front yard and lay him down upon the grass. He was moaning most piteously and punctuating his moans with frequent "Oh Lordies." There was something about his voice that sounded familiar and disagreeable at the same time. Upon closer inspection, I recognized the wounded man as the gambler who had beat me out of my fee five years before and had been actually impudent in doing it. He had been out for a night of it, and with his crowd had made himself a nuisance in a midnight Irish dance hall. Certain sons of Erin then had proceeded to carve up the gang. The man lying on the grass had received a long slash across his chest and had bled considerably from several superficial arterial twigs; in fact, he was still bleeding. He was pale, weak and frightened and all the arrogance and impudence had oozed out through that slash in his hide.

I came very near making another blunder in this case, as I had it on my tongue to say: "Take this man off my premises," but I thought in time and told them to take him into my office and put him on the lounge. I gave him a stimulant, opened his clothing and tied up the bleeding points, stitched up his long swipe, and fixed him up comfortably. I called a carriage and sent him home. I made no reference to his former bill nor to any charge for the services just rendered, but told him I hoped he would soon be all right.

As he was leaving he said: "Doctor, when should I see you again?"

"Some doctor should see you day after tomorrow," I said.

"Some doctor? What do you mean?" said he.

"I thought you might prefer your regular doctor."

He made no response to this but bade me good night as the boys escorted him to the waiting carriage.

The next day, his wife called at my office and asked me to come to see "Jim" any time today; and "look over your books and bring *all your bills.*"

He was propped up on a lounge as I came into the sitting room, and I said "Jim, you didn't need to see me before tomorrow."

"Yes, I did, there is something hurting me besides this cut on my chest. I have behaved like a yellow dog; and, doctor, you sure have put the coals of fire on my head." Continuing, he said: "Calculate interest on one hundred and ten dollars for five years and add in last night's charges and let me ease my conscience right now."

This sinner gave me his check for over $150.00, and proved one of my best friends ever afterwards.

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One more case I will mention as it involves a medical and a money side. Long before the days of diphtheria antitoxin, I was called by a young man to see three of his children, sick with "sore throat." The man had recently moved to the city and was a stranger and without friends. I found three children in bed, the oldest not over seven. Upon examining them, I found that they had diphtheria. The oldest was cyanotic, pulseless and dying of the overwhelming toxemia. The other two were seriously affected. The characteristic dirty membrane covered tonsils and palate; hemorrhagic spots were seen here and there in the pharynx, with involvement of all adjacent and posterior cervical glands.

In those days, the accepted line of treatment consisted in cauterizing the throat and fighting the membrane until it was dislodged, and in the administration of frequent doses of tincture of iron and chlorate of potassium, both for local and systemic effect. This was varied now and then by local applications of turpentine and administration of quinine or other similar treatment. The results were about the same regardless of who treated the patients or what remedies were used.

I own that I was a pessimist and had no faith in myself or any remedy when confronted with a case of real diphtheria. I lost almost half of my cases, and had reached a determination not to add to their torture when I found children not likely to be benefited by the treatment then in vogue.

The older child died while I was in the house. I told the father that I had no faith in any line of treatment, and that, if he preferred that some other doctor should treat his children, I would gladly turn them over to him. He requested me to use my judgment and treat them and he would know that all had been done that could be done, if they died. I sent him to the grocery store for a quart of the best rye whisky, and made up a pint of milk toddy containing three ounces of whisky to the pint. A few teaspoonfuls were given to each one every hour, at first; then at longer intervals for several days, until

there were no traces of membrane visible and the circulation had improved to a point of safety.

Both these children made good recoveries and I used no other medication whatever except the liberal supply of milk and whisky. After this experience, I never cauterized another diphtheria throat and relied mainly upon full nourishment with milk and on free and continuous use of alcohol in the form of whisky or brandy. Thereby, I saved many lives that, I am sure, I should have lost under my former line of treatment.

I not only cured this man's children but I loaned him twenty dollars "until the first of the month" to help bury his child. He was getting a good salary, but he was just a plain thief and a base ingrate. He made up his mind never to pay me a cent. He dodged me on the street, lied to me when I met him and finally said: "You cannot make me pay, and there is no use in wasting money suing me." I knew that he was a valued employe of a wealthy concern down on Main street, and an idea struck me suddenly that I might just as well settle with him then, one way or the other. He was then on his way to the big wholesale house, and I just walked along beside him without saying a word. As we neared the store, he betrayed considerable uneasiness and finally asked me how far down I was going. I told him I was going with him to see his employer.

"I doubt if he will see you during the morning hours," he said.

"Oh, yes, he will see me, we are good friends," I said.

"How much do I owe you?" he asked.

"Seventy-five dollars."

"Wait here a minute," he said, and dashed up the steps to the main office. In a few minutes, he came back and handed me a check for the full amount of my bill. He was a bluffer, but he couldn't stand the gaff!

My advice to my medical friends is, to be very slow to go to law with your patients, but to be patient. Nine times out of ten, within a reasonable wait, they will put their heads in the halter and be glad to settle.

C. A. Bryce.

Richmond, Va.

AMERICAN MEDICAL AID FOR RUSSIA

Advance information on the report of the Health Section of the Commission on Russian Relief appointed by the National Information Bureau, Inc., was made public at the annual meeting of the American College of Physicians, which was held in Philadelphia last month. This information was contained in a letter from Dr. H. O. Eversole, who was a member of the Commission on Russian Relief, to Dr. Haven Emerson, of the American Medical Aid for Russia. The latter organization has recently become the Medical Division of the American Friends Service Committee (Quakers). The letter was presented by Dr. Frank Smithies, of Chicago, the General Secretary of the American College of Physicians. The American College of Physicians, after considering the letter, endorsed the appeal of the American Medical Aid for Russia for funds, medicines, medical instruments and literature to be used for medical aid in Russia.

Dr. Eversole's letter reads as follows:

"Dr. Haven Emerson
American Medical Aid for Russia
103 Park Avenue
New York City
My Dear Dr. Emerson:

As public health advisor to the Russian Commission of the National Information Bureau, I had the opportunity of making a survey of health conditions in the larger cities, in normal country districts, and in the famine districts of Russia. You are conversant with the fact that Miss Bond and Miss Davis assisted me in this work, but I desire to emphasize the importance of their cooperation.

Our observations agree with the reports of the League of Nations Health Section as to typhus, recurrent fever, cholera, dysentery and smallpox. Great effort is being made to control epidemic diseases, but they are still to be found in all parts of the country to an extent that would tax the health resources of any country. Accurate medical statistics are not available, but the fact that in the past five years, according to the most moderate estimates of epidemiologists, there have been 25,000,000 cases of typhus alone, gives some idea of the extent of the problem. Malaria is widespread, especially among the peasant population, and is still on the increase. In December, the Commissariat of Health reports 8,000,000 cases registered. No statistician dares even estimate the inroads of tuberculosis upon an exhausted population in a chronic state of undernutrition.

One of the most serious problems which confronts the medical profession is the care of millions of children whose health has been

damaged by adverse social and economic conditions. Studies made among 25,000 school children in Kiev and 22,000 in Kharkov, both in the famine region, show 75% and 82% classified as tuberculous on the basis of von Pirquet tests plus positive clinical findings in each case. A school dispensary in Petrograd reports that, if marked anemia and malnutrition are included, 100% of the 27,000 children examined in 1922 presented symptoms requiring treatment.

Hospitals, which have been taxed to the utmost to meet the epidemic situation are now running with greatly reduced efficiency owing to lack of necessary equipment and supplies. Surgical instruments are worn beyond the possibility of repair. The American Relief Administration and other foreign relief organizations have sent great quantities of medical supplies, but Russia is so large and so impoverished after the many years of isolation and disease that we found medicines only in small quantities or entirely lacking in all the districts we visited in Russia. In many of the socalled normal areas, which have never been touched by foreign relief, the lack of essential supplies is even more acute than in the famine area. Dispensaries, while still running, are hampered by the lack of even the simplest drugs. For example, one district in the Samara Government, reporting 4500 cases of malaria, had not one grain of quinine.

In spite of these material handicaps, medical work in Russia is not an incoherent effort of individual physicians. The central Commissariat of Health in Moscow is a real organization, with local departments in every government functioning on parallel lines. It has a carefully thought-out program covering every phase of preventive and curative work, formulated and directed by a scientific council, including physicians of international reputation. Constructive work has been hampered by the emergencies of famine and epidemic, but there is no reason to believe that it will not be further developed as soon as economic conditions permit.

Russian doctors and nurses, as a result of their self-sacrificing efforts to maintain a high standard of medical work, have reached the point of exhaustion. It is certain that at least 75% of these men and women are existing on incomes inadequate for even the bare necessities of food and clothing. Great numbers of doctors and nurses have died in fighting epidemics, others have contracted tuberculosis, and those who remain are so weakened by years of privation and overwork that they have slight resistance to disease. All achievement is being paid for in terms of undermined health and death among the medical personnel, but Russian doctors everywhere, while admitting their desperate economic condition, made only one appeal for themselves—medical literature from the outside world.

In my opinion, the point of attack in the present health situation of Russia is, to preserve the medical personnel and to supply their essential professional needs. There is great need for food and for instruments, drugs, medical supplies and literature to make their work effective. I trust that the National Campaign of Physicians and Surgeons in behalf of medical aid for Russia will bring this situation so forcibly to the attention of the American public that immediate and generous aid will be given.

Yours sincerely,

H. O. Eversole."

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[In connection with this article, read the letter on p. 313 of this issue of Clinical Medicine.—Ed.]

ALASKA FOR THE SPORTSMAN

Some weeks ago, I received an invitation from Dr. Harry C. DeVighne, of Juneau, Alaska, to spend my vacation at a new camp which he is establishing up there on the Taku River. The picture he painted was so fascinating, and the opportunity such an unusual one, that I told him I would pass it along to my readers. I wish I had the space to reprint his entire folder, but perhaps the following paragraphs will tell the story:

"We have here a great log cabin with fireplace, used as dining and lounging room, while individual tents, completely furnished, provide privacy and sleeping quarters. Short trips of an hour or two take one to five glaciers, from two of which huge icebergs are constantly breaking with thundering crashes. Lakes and mountain streams abounding in trout, virgin forests and stately mountains, many of which have never been climbed, with the surrounding country practically unknown, offer a fascinating field for exploration with gun, rod, camera or gold pan.

"Mountain goat, moose, bear, an occasional wolf or beaver, mink or marten await the sportsman, while the crisp invigorating air, the majestic river and bay, with its endless procession of gleaming ice floes marching in and out with the tides, the novelty of discovering something really new, of doing some-

thing interesting for the first time, must have a strong appeal to all lovers of wholesome adventure. This is one of the few remaining frontiers to be easily reached, explored safely and without hardship."

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[If you are interested, if, as the Doctor says, you "love the wild places, and can rough it, with some expert assistance," write to Doctor DeVighne for further information.—Ed.]

U. S. CIVIL SERVICE EXAMINATION

The U. S. Civil Service Commission announces an open competitive examination for physician. Vacancies in the Seventh Civil Service District, comprising the States of Illinois, Michigan and Wisconsin in the positions indicated below, at the salaries indicated, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Veterans Bureau.—For filling positions of physician, acting assistant surgeon, medical examiner, and medical referee, for full-time duty at Grade A, up to $3,250 a year; Grade B, up to $4,250 a year; Grade C, up to $5,500 a year, and for part-time duty as physician, medical examiner, attending specialist, and consultant, at a salary to be determined by the services rendered.

Public Health Service.—For filling positions of acting assistant surgeon at $480 a year for part time to $2,400 and $3,600 a year for full time.

Physicians who are interested in these openings can receive particulars by addressing the Secretary, Seventh Civil Service District, 13th Floor, Federal Bldg., Chicago, Ill.

It is to be kept in mind, however, that applications executed on Forms 1312 and 2398 must be filed on or before May 14, 1923.

HOW A PHYSICIAN DIED IN HARNESS

For many years, the controversy as to who is the real discoverer of surgical anesthesia has been carried on. It seemed to be closed by the nomination of the late Dr. William T. G. Morton to the Hall of Fame. As was remarked in an article in this Journal (December issue, page 869), the Southern Medical Association was not willing to abide by this decision, but went on record as claiming that the fame for having discovered surgical anesthesia was due to the late Dr. Crawford W. Long, of Georgia.

However that may be (and we trust that the question will be solved ultimately), we wish to reproduce here a touching tale of how Dr. Long came to the close of his life. Dr. Jefferson Wilcox, of Willicoochie, Ga., related it in the Daily Tifton Gazette, and mailed us a clipping which we acknowledge gladly. Dr. Long was a physician such as we know him, not only from reading "Beside the Bonny Briar Bush", but also from having met, known, and loved him, here and there throughout the country, for years. But, to the story, as printed:

"Dr. Crawford W. Long was more or less impoverished by the ravages of war, and he stuck to the exacting strain of a wide general practice, literally to the last minute of his life. By this dauntless adherence to duty, he recovered his shattered fortunes and left his family in comfortable circumstances, notwithstanding a current notion to the contrary. Thus it was that the night of June 6th, 1879, found him still in harness.

"On this particular evening he sent word home that he would not reach there for the evening meal, as he was obliged to attend a patient in confinement, and that it might be late before he could return. Therefore, his youngest daughter (now Mrs. Frances Taylor) retired without awaiting his return. She had not slept long, however, before she had a dream in which she saw her father stretched upon a couch in death. The vision so disturbed her that she awoke in great agitation, and, while her sisters were still attempting to quiet her, there came a rap at the casement of a French window leading onto the veranda. Such rapping at this window was a common signal employed by neighbors who came for the Doctor at night. But somehow the family felt a premonition of evil in the sound of that light rap, and they opened the window in a state of alarm which was scarcely greater when a breathless messenger told them that the father lay dead on a couch at the patient's house, just as his daughter had seen him in the dream. While ushering a new life into the world, he fell at the bedside, stricken with heart failure, and lost his own. When those present rushed to him, he instructed them to administer strychnine to himself. When he rallied, he gave instructions for the comfort of the mother and the child, and his last words before he lost consciousness were directions for the relief of his patient.

"So died Dr. Crawford Williamson Long, as nobly as he had lived. I was a grown man at the time and remember the incident distinctly. It was discussed around every Georgia fireside and the name of Frances Long was on every tongue. I could say many, many wonderful things of Dr. Long and his discovery, but I will defer anything else until another time.

Jefferson Wilcox, M. D.

"P. S.—I have no records to refer to: I am writing from memory alone."

FREDERIC H. ROBINSON (1890-1923)

Medical journalism recently lost one of its most active, enthusiastic and successful workers in the death of Frederic H. Robinson, who passed away on March 15, 1923, at the age of only thirty-three. Robinson had been publisher and managing editor of the *Medical Review of Reviews* for over ten years, having assumed this double office at the early age of twenty-one.

FREDERIC H. ROBINSON (1890-1923)

He was keenly interested in medical sociology and in birth control. He was the first secretary of the Voluntary Parenthood League and devoted sincere attention to child welfare.

In 1913, he published a symposium on the subject of euthanasia in the *Medical Review of Reviews,* which attracted much attention. Among the contributors to this symposium, there were such men as John B. Murphy, A. Jacobi, Roswell Park, Arpad G. Gerster and others. His convictions in regard to euthanasia were so firmly settled that, when he became ill himself, he demanded that it be applied to him.

In spite of his youth, Robinson was a remarkably successful managing editor. His magnetic personality and his sincerity endeared him to those with whom he came in contact. Without a doubt, he would have accomplished much if his health and his life had been spared. R. I. P.

ALBEN YOUNG—1861-1923
In Memoriam

When, on Monday, April 2, Dr. Alben Young, 4232 N. Paulina Street, Chicago, passed unexpectedly to his reward, the medical profession lost an honored member and the people of Ravenswood a true and oft-tried friend.

Alben Young was preëminently a "family physician" of the old-school type, and the sterling qualities—not only of mind but heart—which traditionally pertain to such a practitioner were his in full measure.

Throughout his long professional life, he gave "the very best that was in him" to those who sought his services and they who knew him the longest loved and trusted him most.

Doctor Young was associated with Dr. W. C. Abbott in the earlier years of the latter's practice and was in attendance upon him at the time of his death, July 4, 1921.

Christian gentleman, excellent physician, model citizen and loyal friend, Alben Young in life set a standard that others may be proud to attain and, in passing, he leaves a void in the hearts of hundreds which it will be impossible to fill.

"The Doctor Sleeps! Might we his deeds recall
His name would blaze in Fame's enmarbled Hall
But, serving modestly through life, it now seems best
To merely write "His Work Survives," and let him rest!"

DR. A. MARION WASSAM

Dr. A. Marion Wassam, of Galveston, Texas, died on December 12, 1922, at 12:50 p. m. He was born in Pennsylvania, in 1846; graduated from Rush Medical College in 1868; practiced in Pennsylvania for several years, when he moved to Topeka and later to Wichita, Kansas. Preferring a warmer climate, Doctor Wassam removed to Galveston, Texas, where he enjoyed a very large practice for almost thirty-three years. He lived a quiet, unassuming but very active life, being deeply interested in the practice of medicine. He was a subscriber to Clinical Medicine for many years, and one of its most appreciative readers.

GOOD WORK BEATS QUACKERY

Yuletide has passed away, and so have some of our old friends of CLINICAL MEDICINE. I well remember the short but interesting articles of Dr. William Cline, who passed away in November. Also, old Dr. Gray, of Mexico, I shall never forget. Somehow his articles haunt me. I should have liked to meet the good old man face to face who did such faithful services to the poor. I know, he would have been interesting.

DR. OLIVER B. BARRON
Ferndale, Calif.
"In the petrified forest in the lonely desert of Arizona."

It is the lovely warm January sunshine here in northern California, that is somewhat unusual at this season of the year, that has tempted me to write this shotgun article. However, for the last four or five days, the weather has been so lovely that it has started the wheels of thought turning toward the vacation that we all should take to wear away the grouch of the winter months of hard work. Before I start on that imaginary vacation, let me say a few words on tonsillophobia and chiropractics, since the article of Dr. O'Reilly and W. L. Schrantz brings to my mind a few thoughts.

First, I will say that there was never a time that the practice of medicine and surgery (a true science) was more perilous than it is at the present time. I can't say that there is so very much surgery done that should not be done, but we should be more guarded in advising an operation for our patients, lest they misunderstand us. We should advise them that the tonsils are "little soldiers" and are the first line of defense against bacteria and, therefore, should not be removed until they have become unable to perform their duty. If then, by remaining, they become a nuisance to the good health of their neighboring soldiers, they should be removed, by all means.

Again, when a patient comes to us for relief for some ailment, we should not turn him down flatly and refuse to give any medical treatment when he refuses to submit to an operation, even if we are quite sure that it is the logical thing to do. When we honestly think that an operation is the only thing to restore a patient's health, we should advise him accordingly. If he doesn't want the operation, we should give him the next best thing, advising him at the time to not expect too much from medical treatment. He will soon realize that we are honest and know what we are doing. He will have confidence and return for the operation when he fails to get relief otherwise. In case he is flatly turned away and then goes to some other physician and does get some relief, his estimation of the medical profession is lowered. Or, should he turn to the highly advertised quack and, through nature's beneficent efforts, get somewhat better about that time, there follows more advertisement for the greatest quackery ever thrust upon the public. These quacks keep an eye open for your patient just about the time of convalescence and after you have pulled him through six or eight weeks of hard fight for life, for no other aim than to gain glory for themselves. After science has accomplished what it has and when intelligent people turn from it to chiropractics for no other reason than that it is well advertised, I wonder how long it will be before superstition will be rampant as much as it was with the Indians when they had their "medicine man."

Now for that vacation. A few months later, when you are so tired out from answering the calls of the sick and painful that you are painful yourself, and especially when you have grown tired of the rush of the city life, get in your machine, drive across the greatest desert in America into the greatest country in the world—California; stop over in the petrified forest, have a few hours quietude as in

the inserted picture, and—when you return to your work, you will have something to while away the monotonous hours. I am from the south where the sweet potatoes and 'possums grow and I have driven across twice; it's worth it.

OLIVER B. BARRON.

Ferndale, Calif.

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[Dr. Barron is right. Good work, faithfully performed will, in the end, prevail over quackery, pretense, and pseudo-science. Let physicians prove to their patients that they know their work and honestly study their patients, making every effort to benefit them, and irregulars, quacks and their ilk will surely be left behind in the race. Still, it is needful that we study and investigate all claims of "these others," that we become familiar with their methods and prove to our patients that we can apply them better (when really indicated) because of our better, all-around training. To condemn something originating outside of the medical profession as nonsense, without examining it, shows narrow-mindedness. Physicians should be the most broadminded, the most tolerant of all. Are we?—ED.]

GOOD WISHES

The January "CLINIC" says that the current volume is the thirtieth. If that is so, then it is 30 years since, in Ravenswood, I first called upon our own Dr. Abbott, in his office at that place, and since he and I drove about the suburban town while he called upon his patients.

Among the many other things which young doctors will tell each other, he said: "Lawrence, I am poor. I have scarcely two shirts to cover my nakedness." I replied: "Well, don't worry about that. You can't wear but one at a time." The years have gone and have taken with them our esteemed associate. He then had the stuff in him which developed into the doctor, the editor and the financier which CLINICAL MEDICINE proved him to be. It means more than words when I wish for him and for my friend, Dr. William F. Waugh, the happiness due all good men.

I wish, my dear doctors, to send to you all my "Happy New Year." This is not a wish for your success, but an assurance that the 1923 "CLINIC" will be all that good editors and hard workers can make of any medical journal. The January issue is a thing of beauty and inspiration.

Permit me to congratulate you, that you and the A. M. A. have determined to let the people know of the grandeur of the medical profession, of her history and of her unparalleled accomplishments. To her shame, she has allowed herself to become the ridicule of the quacks and of the ignorant.

You are right in your determination to use the popular press for this purpose. While the medical journals carry the propaganda to the doctors, they do not reach the people and it is they who must be taught.

With the "CLINIC" heartily at work, it will not fail to bring about the much-to-be-desired results.

V. E. LAWRENCE.

Ottawa, Kansas.

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[We appreciate the cordial greetings and good wishes of our faithful friend of many years, Dr. Lawrence. In the past, during his busy years of practice, he was an "active" subscriber, that is to say, a frequent contributor. His occasional letters now are always read with pleasure.—ED.]

GALL-STONES

Naunyn says that gall-stones are caused by a catarrhal condition of the mucous membrane of the gall-bladder and ducts, preceded by an invasion of microbes from the intestines; in other words, he claims that cholelithiasis is wholly a local disease.

If this reasoning is true, there is not any hope of relieving a case of gall-stones outside of surgical interference, and surgery should permanently relieve every case of gall-stones, except in atrophy of the gall-bladder, where this is beyond redemption, because it not only removes the stones and bile at the time of the operation, but, by a system of drainage extending over a considerable length of time, prevents the formation of diseased bile and, thus, should give the gall-bladder and ducts an opportunity to regain their original healthy state.

We know that surgery does not always bring about permanent relief, even after a second or third operation; after all of the stones and the heavy, diseased bile has been removed. As an illustration, the writer has in mind an elderly lady who was operated upon for gall-stones by a competent surgeon. She suffered so much pain after the wound healed, that her physician decided that some of the stones had been overlooked. A second operation was performed and, though a thorough search was made, not a fragment of

stone was found; nothing but thick bile which could not flow readily through the ducts. The gall-bladder and ducts were in as healthy condition as could be expected under the circumstances. Everything looked favorable for a speedy recovery. A drain was introduced and left in place until it was thought that there was not any danger of a recurrence. It was removed but, before the wound had entirely healed, she began to suffer intensely and the wound had to be opened before she got relief. This continued, at intervals, over a period of two years.

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If the disease were local, should not this woman have received better results? Does not this case illustrate the fact that there must be a condition outside of the gall-bladder which keeps up this diseased condition of the bile?

The catarrhal condition of the mucous membrane of the gall-bladder and ducts would naturally follow the change from normal to heavy bile which is too thick to flow through the ducts into the digestive tract. When in a diseased condition, the bile acts as a foreign substance, creating at first irritation and then inflammation.

Authorities differ as to the kind of microbes that are the cause of gall-stones; some claim that colon bacilli are the cause; others incriminate the Eberth bacillus.

It has been shown by experiment that microbes introduced into normal bile in a living subject disappear without altering the bile in any way. It has also been shown that sterile foreign substance, introduced into the gall-bladder, is not sufficient in itself to precipitate the bile.

The biliary-acid salts, glycocholate and taurocholate of sodium, are not sufficient in quantity and quality, in every case of cholelithiasis, to hold the bile in solution. The gall-bladder does not make the bile, it is a receptacle and stores it up to be emptied into the digestive tract as needed to aid digestion.

Those who look on gall-stones as the result of local changes in the gall-bladder are like Stromeyer says: "They hear the little grass grow, while the thunder rolls unobserved in the upper ether."

There are certain symptoms which precede the formation of gall-stones and which point to a systemic disease: the systolic blood pressure is below normal, if uncomplicated, which shows that the individual is living on a lower level than he should; there is a slight or aggravated indigestion according to the amount of bile reaching the intestines; there is a slight pain, at first over the region of the gall-bladder and radiating toward the median line; there may be soreness and at times a pain in the back, which the patient refers to as rheumatism and not worth mentioning to his physician. He has a sluggish, sleepy feeling and yet his sleep is not restful. If one studies his case closely, he will find the feces lacking in bile, and slight traces of bile pigments in the urine. As the case grows in intensity, all the symptoms are aggravated, but, overshadowing all is the indigestion, which the average physician is very apt to treat as such, overlooking the lack of bile which is the cause.

Some years ago, the writer was acquainted with an intelligent lady about thirty years of age, a school teacher by occupation, who had indigestion for a number of years, and which grew gradually worse. She had very slight if any colic. This lady was treated by a number of physicians for dyspepsia. She became a nervous wreck, lost her mind and committed suicide. At the post mortem it was found that the gall-bladder was filled with gall-stones, yet, not one of her physicians had discovered the cause of her ailments.

After a good many years of experience and study, we are satisfied that cholelithiasis is a systemic disease. Microbes of any description, coming from the digestive tract, do not have anything to do in bringing about the condition. Metabolism is interfered with, as shown by the fact that gall-stones frequently follow some serious disease such as typhoid fever or, in fact, anything that calls on nature to put forth an extra effort to maintain life, as in pregnancy.

If normal bile is furnished to the gall-bladder, is it hard to comprehend that it will not only prevent formation of new stones, but will redissolve those which are already formed? This has been proven by experiments. (Sajous' "Analytical Cyclopedia of Practical Medicine," Vol. 2, page 121.)

Cholelithiasis should not be classed as a surgical disease. It can be permanently relieved by means of medication, with less danger and more certainty than by any other means. This disease means a depleted condition of the system which requires both a nerve and a general tonic. Cathartics, intestinal antiseptics, antacids, etc., are makeshifts and can not do more than bring about temporary relief, if they can do this. If healthy bile is present in the digestive tract, as it should be, nothing else is needed.

We have often heard physicians say that there is not any medicine that will dissolve gall-stones in the gall-bladder. This is true; but normal bile will do just that.

The number of people afflicted with gall-stones makes the disease an important study for the medical profession. It is estimated that there is one woman in every ten and one man in every twenty, in the United States, who are afflicted with this disease. The writer is satisfied that this is a modest estimate, as there are hundreds of cases that have been diagnosed as due to other diseases when in fact they should have been treated as gall-stones.

If the medical profession would study cholelithiasis as a disease of the system which originates outside of the gall-bladder, and not as a local disease originating in the gall-bladder, a permanent relief might be found that would prove a blessing to humanity.

C. C. HANKINS.

Springfield, Mo.

PAIN REFERRED TO FOOT AFTER AMPUTATION ABOVE KNEE

On the second day of last November, on my way to see a patient, a freight train backed into my car, and, in the accident, one of the railroad car wheels ran over my right leg, through the knee joint. This necessitated an amputation about 3½ inches above the knee. This operation was done less than one hour after the accident. When I reacted from the anesthetic, I was suffering intense, agonizing pain in the amputated foot and toes. This pain was cramp-like, burning and, at times, sharp shooting in character, and so severe that morphine in doses of 1/3, 1/2 and even 3/4 grain would not relieve it.

Three weeks after the amputation, an incision was made on the posterior part of the stump and the nerve, which was found caught in the scar-tissue and adherent to both the artery and vein, was resected. This gave me complete relief on the outer side of the foot and in the four lesser toes. But, it did not relieve the agonizing cramping pain in the big toe and on the inner side of the foot. I then went to a neuropathic hospital and was treated with massage, high frequency and hot alcohol fomentations, and given 5-grain doses of pyramidon for the pain; all of which, I believe, aggravated the condition, as the pain in the big toe and inner side of the foot not only failed to improve but that in the four lesser toes and on the outer side of the foot returned as severe as ever.

Then the third operation was done and the sciatic nerve exposed; it was found inflamed and bound by adhesions all along its course. These adhesions were broken up and a 60-percent solution of alcohol injected in the nerve up high. This left me with a sensation of tingling in all the toes, which lasted about three or four days and the old cramping pain returned almost as severe as before.

One week later, a fourth operation was done in an attempt to strip the parasympathetics from around the femoral artery, but a hole was torn in the artery and it had to be ligated again on the parasympathetics. So, naturally, I do not feel that this operation could have given me any relief. I still have the pain, but not so constantly, though, even now, it is at times agonizing.

There seems to be very little literature on painful stumps or, rather, the referred pain. I should be glad to see this article published in your magazine and have a general discussion of the condition. I am especially interested to know if a 60-percent alcohol solution will, in every case, block a sensory nerve.

J. M. RATLIFF

Richlands, Virginia.

[Doctor Ratliff's experience is not an isolated one. We recall having heard of similar complaints on repeated occasions We had hoped to print, in connection with his article, a contribution by a surgeon, on the subject, giving a review of what is known about it. Unfortunately, it has been impossible to complete the manuscript in time for publication in this issue of CLINICAL MEDICINE We intend to refer to the subject again, however.

In the meanwhile, it would be interesting of those of our readers, having knowledge of similar observations, would communicate them to us. The referring of pain to an amputated portion of the body can be explained, of course; and it has been explained satisfactorily. We believe that this referred pain becomes less and less as time passes and that, ultimately, the sensory nervous system adjusts itelf fully to altered condition.—ED.]

AN INCURABLE BUT NEVER HOPELESS DISEASE

At about that season of the year when one feels safe to drain the antifreeze mixture from the radiator of his car and to consider seriously laying aside his winter "heavies," there appear, in a large percentage of the he-man population, irrespective of age, status or calling, the prodomes of a disease that reaches crisis during the spring or summer, often the early days of June. Females possess a certain amount of natural immunity, although there are exceptions in which the malady attacks the socalled weaker sex in its most virulent form. Attacks recur annually, increasing in intensity by geometrical progression in spite of anything that can be done.

The earliest symptoms manifest themselves in a failure of the ability to concentrate upon the sterner realities of life, and develop promptly to the pathognomonic phenomenon in which the victim surrounds himself with sporting magazines, tackle catalogs, etc., and sits down to plan the annual additions to his fishing outfit. The overhauling of his rods, reels, flies, plugs and what not, together with the accumulation of new material, usually lasts from a month to six weeks, during which period the patient shows strong tendencies to seek the company and conversation of others similarly affected.

As the crisis approaches, the questions of when, where and how to go become uppermost in the individual's mind and it is in this particular regard that the writer hopes to be of service to his fellow-sufferers. Here is a prescription known to be effective in controlling the outbreak. Several of us take it annually with great success, and it can not help but be equally effective in your case.

Each year, it seems necessary to push on a few miles farther, to reach water not fished out, places to which jazz dancing and lounge lizards have not yet penetrated. I have been lucky in finding one such as this and am writing to pass the information on to a few of the faithful.

About 150 miles west of Duluth, on the Soo Line, stand, in a clearing, a saw mill, two general stores, a bank, the Post Office, a barber shop (open Saturdays only) and a handful of dwellings, the combination being known as Boy River, Minnesota. By previous arrangement, Riley Brown will meet you there with his power launch and, through fourteen winding miles of the rice-choked Boy River, will take you to his camp on the north shore of the homonomous lake. With the exception of taking along a few dozen frogs, you may place your piscatorial hopes for the next two weeks entirely in Riley's capable hands.

If it's wall-eye pike or that snaky brother of the pickerel, the northern pike, that you want, Boy Lake will furnish them. Riley guides his flivver over the woods trails as well as he does his boats through the lakes and streams and, if it's small-mouth black bass or large-mouth ditto, or muskellunge (25 pounders, too) or anything else that could reasonably be expected in the way of fish, Riley will take you to a lake full of them and there will be boats there to meet you.

A GOOD HAUL

When "chow-time" comes, Riley turns camp cook and you eat until you're ashamed of yourself.

With the "limit" on your stringer (which doesn't take long), you fish, the rest of the day, with an unbarbed hook and get the thrill without depleting the waters. Give the kiddies of the next generation a chance, too. Better than that, "lay off" a day and ramble through the country, much of it primeval forest except for the fact that the pines have been taken, the rest of it cut-over slash with a little clearing here and there. Partridges are so thick that they get in your way; chipmunks scurry ahead of you and, now and then, a deer will jump out at your approach. The trails of the Chippewas are here still freshly footworn and one finds the remains of their camps, marks of their maple-sap boiling and, once in a while, a few lonely, pathetic little housed-over graves.

Two weeks of this will be "good for what ails you," no matter what it is. If you're nervous, it will act as a sedative; if you are sluggish and stolid, it will stir you up. Weigh yourself when you leave your fireside (A) and again when you get back (B). If you are inclined to the accumulation of omental

fat, subtract B from A and note what a load of excess weight you have lost. If originally skinny, reverse the process, subtract A from B and see what Mrs. Brown's muffins and the eggs from her flock of White Leghorns have done for you. She doesn't bring you just an egg or two—she puts a couple of dozen in the center of the table and you proceed to eat more at a meal than you ordinarily do in a week. Home-grown vegetables, fish, the chickens themselves, blueberry pie—oh, boy! Eat?—why, poor fellow follower of Hippocrates—you'll eat like one of Riley's guides. And sleep—ten hours without a dream, unless it's of the string that you're going to catch the next day. The passing years have made me skeptical of beds except in Mr. Statler's hotels and at home;

THE COZY CAMP

but Mrs. Brown's are pleasant surprises in this regard.

This year, there will probably be a radio and, when night comes, you'll sit on the big screened porch, watch the moon as it sails across the heavens that are just a little starrier there than any place else I've found, and listen meantime to market reports and what the Cubs and White Sox did to others or got done to them. If it gets a little cool, as it often does, even when the heat prostrations here in Chicago are running several a day, you'll go into the big living room, kindle a birch-wood fire and go after the championships—bridge, checkers or story-telling, just as you choose.

When the two weeks are gone and you "settle up" with Riley, you have a feeling that he has made a mistake in the dates and is charging you for one week instead of two. You see, Riley is one of the sort that just couldn't learn the "hold-up game." Your biggest fish, kept meantime in the ice house, are packed in sawdust, moss and ice, ready for shipping, Pullman reservations are telephoned in to town, and Riley's launch takes you back to the Soo line. Then, fifty weeks more grind before you can come back for another dose.

This is the life—medical men. Suppose you meet a couple of us there this year. Remember the address—Riley P. Brown, Boy River, Minn., and don't tell every one in the world about it, either—it's too good to share with any but "regular fellows." R. L. M.

What's that—fishing? Well, I'll be hornswoggled! Sure enough, it's getting warm. The sun goes higher and higher. Soon it will be vacation time. I'm not a fisherman, myself—wasn't raised that way, city bred and all that. Besides, the Lady-who-gives-me-orders does not.... well, anyway, I can not go. But I hope all you other chaps will have a dandy vacation time, fishing. —Ed.

"TALKING OF ADJUSTMENTS"

Doctor Candler's clever skit (Clin. Med., April, p. 283) regarding the Chiropractor and the necessity of the medical profession of waking up and protecting the interests of sick people against unscrupulous exploitation has been reprinted in pamphlet form and is available for distribution.

We are in a position to offer these reprints at the very low price of $1.00 for twenty-five copies, postpaid.

We suggest that our subscribers procure sufficient numbers of these reprints to "go around" among their patients. They may either hand them out personally or leave them on their waiting-room tables for self help. Anyway, it is up to the general practitioners to help in this fight against irregular usurpation of the fields of medicine. The trouble is not so much that physicians suffer financially through it, they don't—in the end. You see, the victims of the Chiros and of their kind invariably have come back to the doctor, in the end. The damnable thing is, that much valuable time is lost through "adjustments" and similar mispractice and that the patient's chances to receive benefit from suitable treatment are then diminished.

We are in this fight to stay. But, you have to do your share. How many reprints do you want? There is no money in it for us. We sell them at cost.

What Others are Doing

BISMUTH AS A SUBSTITUTE FOR ARSPHENAMINE

In the recent past, several reports were published, principally in the Annals of the Pasteur Institute, in Paris, but also in other French and in German publications, dealing with the administration of bismuth compounds in place of mercury and arsenic compounds for the treatment of syphilis. According to an editorial article appearing in *The Journal of Laboratory and Clinical Medicine* (Jan.), the immediate results from such treatment appear to be as good as, or better than, those obtained with mercurials and with arsphenamine. In any case, it seems that the drug is valuable for alternative use with these other agents in those cases where the invading parasite has apparently acquired a degree of tolerance to the drug.

While it would be premature to suggest the clinical employment of bismuth in general practice, as a substitute for mercurials and arsenicals, and while it will be several years before the end results from bismuth treatment can be comprehensively tabulated, it would be well for physicians to keep in mind that investigations are being carried out.

It appears that the use of bismuth in the treatment of syphilis was developed in France, chiefly through some workers in the Pasteur Institute. Certain preliminary observations have been made and published as long ago as 1912. The work was resumed after the war and we learn that, in January 1922, a symposium on the use of bismuth in the treatment of syphilis appeared in the *Annales de l'Institut Pasteur*. During the same year, twenty-three articles on the same subject have been recorded in European and South-American publication, but not in the American medical press.

Sazerac and Levaditi, of the Pasteur Institute, experimented chiefly with sodium-potassium-tartrobismuthate which they found highly toxic on intravenous administration, less so after intramuscular injection, apparently due to temporary fixation of bismuth in the tissues, with resulting delayed absorption. While the drug was first administered in watery solution, it was later suspended in oil with more satisfactory results.

The toxicity of an oily suspension is less than that of an aqueous solution of tartrobismuthate administered in the same manner. Oral administration of the drug had no effect upon the progress of syphilis in the experimental animal. Rectal administration caused a temporary but not permanent disappearance of the syphilitic lesions. This method is being studied more thoroughly. Analogous results were obtained by inunction. The authors point out the possible advantages to be gained in prophylaxis from the use of bismuth ointment.

In the treatment of human syphilis, these authors report very promising results, the drug is unusually stable and of low toxicity when given subcutaneously or intramuscularly. Its intravenous administration is absolutely contraindicated. They recommend the use of a suspension in oil.

Fournier and Guénot have collaborated with Sazerac and Levaditi in the clinical use of sodium-potassium-tartrobismuthate. They give the drug intramuscularly in a 10-percent suspension in olive oil and emphasize the importance of depositing it into the muscles rather than subcutaneously. The latter method is decidedly more painful while the inconvenience from intramuscular injection is no greater than that observed after intramuscular mercury. A total of two or three Grams of bismuth should be given during the first month of treatment. Two or three injections of 0.2 Grams are given daily, after which the patient receives 0.3 Grams twice weekly throughout the month. After this period, treatment may be continued with weekly injections of 0.2 to 0.3 Grams or the patient may be allowed one month's rest, after which the regular course is repeated. The only necessary precaution for the patient to observe is a careful hygiene of the mouth.

Under this treatment, spirochetes disappear from the primary sore after the first to the third injection. The chancre becomes completely healed within five to twenty-five days, usually within two weeks. The Wassermann reaction, if negative at the initiation of treatment, usually remains so. If positive, the strength of the reaction falls as satisfactorily as, or perhaps more so than, after the use of arsphenamine.

Bismuth is particularly useful in the contagious stages and, according to the authors, causes more rapid and complete disappearance of the contagious lesions, than does arsphenamine. In secondary syphilis, the cutaneous lesions disappear as a rule within a week. The strength of the Wassermann reaction is very favorably influenced, it becoming practically negative within two or three months, as a rule, but varying considerably as with other forms of treatment. Tertiary lesions improve with almost equal rapidity. This is particularly true of gummata and tertiary skin and mucous-membrane manifestations. The authors report no conclusive observations on visceral or nervous syphilis.

No untoward effects from the use of bismuth have been reported, other than a tendency toward stomatitis similar to but usually not as severe as that following the use of mercury. A marginal pigmentation usually appears in the gums, analogous to the familiar lead line. The stomatitis is usually a fusospirillary infection similar to that of Vincent's angina. It is satisfactorily treated by the methods customarily employed in Vincent's angina and may even be rapidly cured by the local application of the tartrobismuthate in powder form. Bismuth appears in the saliva, but in an altered form, probably combined with sulphur, in which it has lost its spirillicidal properties.

Hugo Müller, director of the skin and venereal clinic at Mainz, has corroborated the work of the French observers and reports equally satisfactory results. He reports unusually good results in the treatment of secondary syphilis accompanied by hypertrophic papules and rupeal syphilis, which are ordinarily rather highly resistant to the usual method of treatment. He points out, also, that the drug is particularly useful in those cases where the spirochete has become arsenic-resistant. Such cases clear up rapidly under bismuth treatment. He reports, for example one patient who developed severe mercury poisoning from 1 Gram of gray ointment, intense iodism after taking 0.5 Grams of potassium iodide, and an acute dermatitis lasting two months following a dose of 1 Gram of neosalvarsan.

TREATMENT OF TUBERCULOSIS

In a remarkably practical communication to *The Prescriber* (August 1922), Dr. John Laird says that the importance of the salts of calcium in its treatment has long been recognized, and many leading authorities write in strong terms of the great benefit to be derived from a plentiful supply of them to the system. Lime salts are not only necessary for the construction of the body and its growth, but also for keeping it healthy and in repair. They have a stimulating and tonic effect on the cardiac and skeletal muscles, and thus add much to the strength of the central organ of circulation, which is often small and ill-nourished in cases of phthisis. They have also a stimulating action on the digestive powers of the pancreatic secretion, and thus aid in the assimilation of fatty foods, which are so necessary in this wasting disease.

The salts of calcium are powerfully restorative, enriching the blood, strengthening the heart's action, and giving tone to the whole muscular system, while they also promote calcification of tuberculous deposits, or aid in the formation of fibrous tissue which will surround them, and thus prevent any further progress of the disease.

It is said that, in tuberculosis, there is an increased drainage of lime salts from the body, and the problem now presents itself as to whether we have at our disposal any means of stopping this drain, and also of promoting the assimilation of further supplies.

The question arises, according to Dr. Laird, whether any help can be received in this direction from the endocrine system.

Since the thyroid gland secretion increases metabolism which is already too active in tuberculosis, and since it promotes excretion of the lime salts, he concludes that its administration is not helpful.

The parathyroid gland secretion, which is said to increase the calcium contents of the blood, should be helpful in some cases of external tuberculosis, but, as it may in its early action tend to increase disease, some caution is required in its use.

Doctor Laird disclaims sufficient experience to write dogmatically on the subject, of pituitary medication but suggests small doses of the anterior pituitary substance, carefully watching results. He warns against large quantities which he designates as a gross mistake.

Since the pancreas provides an internal as well as an external secretion, the internal secretion tending to increase the resistance of the system toward bacterial infection, extracts of pancreas, pancreatized codliver oil and pancreatic emulsion are often helpful in the treatment of tuberculosis.

Doctor Laird lays proper and emphatic

stress upon the vital importance of a healthy digestion of suitable foods as a potent aid in the treatment of tuberculosis. The following few paragraphs are aphoristic and may well be taken to heart:

The stomach is the greatest friend of the consumptive patient, therefore it should be studied more than any other organ of the body.

The nutritive system is Nature's laboratory for the manufacture of its germicides.

With a cell acting up to its highest possible efficiency, the multiplication and growth of pathogenic germs becomes impossible.

There can be no doubt but that the treatment of the future will consist in bringing the vital capacity of the cell up to a normal standard.

The teaching of pathology is, that the fortifying of the general resistance of the individual is the most important indication of all.

As for drug treatment, the following mixture is recommended:

℞ Sodii iodidi	½ dram
Sodii salicyl.	3 drams
Liq. arsenicalis	½ dram
Tinct. pulsatillae	1 dram
Tinct. baptisiae	4 drams
Syr. aurant	1 ounce
Aq. chlorof. ad	8 ounces

M. Sig. "A teaspoonful gradually increased to a dessertspoonful to be taken in water three times a day after meals."

In conclusion, Laird summarizes as follows:

Tuberculosis, with proper care and healthy surroundings, with a nourishing diet and plenty of fresh air, is a preventable and curable affection, and, even in the absence of these advantages, much may be accomplished.

That form which so frequently shows itself in the swollen lymph glands of the neck is very amenable to this treatment; the abdominal form of the disease in children comes next in curability, while the pulmonary form necessitates a more protracted treatment.

Even tuberculous meningitis may yet be overcome if taken in the very earliest stage. Doctor Laird has had recovery in one such case in a tuberculous family where the child was unconscious for forty-eight hours, the mixture being given in enema form.

The external forms of tuberculosis as seen in diseased bones and joints are also amenable to treatment when combined with rest, fresh air, a good dietary, and suitable surgical means adapted to the case.

BACTERIN THERAPY IN ACUTE URETHRITIS AND ITS COMPLICATIONS

Dr. Enrique Castano, Professor of Genito-urinary diseases, presented a detailed report of sixty-three cases treated in his clinics. His conclusions, as published in that excellent medical journal, *La Semana Médica,* of Buenos Aires, are summarized in the following paragraphs:

1.—Bacterin therapy was of no value in acute cases of blennorrhagic urethritis.

2.—Bacterin treatment should invariably be used in all acute complications of blennorrhagia.

3.—Bacterin treatment is quite innocuous for the patient, even when given in large doses.

4.—Bacterin therapy gives best results in acute complications considered in the following order: arthritis, epididymitis, prostatitis, periurethritis.

5.—Bacterin therapy has a remarkable action on the painful symptoms of any of the complications.

6.—Bacterin therapy does not protect the patient against relapses or other complications.

7.—Bacterin therapy should be associated with other recognized forms of treatment.

8.—Experience teaches that success or failure of the bacterin employed depends partly on the patient and, therefore, in the rebellious cases, bacterins should be employed in progressive doses and combined with other treatments.

A very efficient vaccine that gives splendid results is the Gonococcus-Combined-Bacterin. It should be associated with the local applications of acriflavine and argyn, in all cases. Excellent results have been obtained in complications, such as gonococcic arthritis and prostatitis, as well as in all chronic cases.

Among the Books

CORBIN: "RETURN OF THE MIDDLE CLASS"

The Return of the Middle Class, by John Corbin. New York: Charles Scribner's Sons. 1922. 12mo. viii+353 pp. $2.50.

THERE has come into existence lately quite a library of antidemocratic literature, intended to sound the warning that our democratic theory of government depends upon sundry presuppositions concerning the moral and intellectual quality of the private citizen, and that, where these presuppositions are wanting, Democracy becomes tyranny of the worst sort.

This book is a notable addition to this type of literature. Its aim is, to show that the political subdivisions of our country are superseded by industrial subdivisions. We are no longer differentiated horizontally, spatially, geographically, but vertically, according to our status in a vast nation-wide industrial system.

Failure to recognize this change of direction in the grain of our life must result in the elimination of the great Middle Class as a factor in all efforts at adjustment, and may result in its total extinction as a class. This would be a calamity of the first order; for the Middle Class, the salaried brain-workers, professors, teachers, clergymen, 'white-collar' clerks and so on, always has been and still is the mainstay of any civilization worthy of the name. Something must be done to rescue that class.

In a wholesome way, this is a disturbing book. One may hate to think that our cherished political axioms—the equality of men, the essential trustworthiness of human nature, man's native capacity for self-direction—are axiomatic only as they concern a certain type of humanity—the Nordic. One may hate to think that our ideal of a class-less civilization, in which merit wherever found faces its instant opportunity, must be replaced by a structure of social classes.

Yet here are the imperturbable facts. Our country swarms with South-European immigrants who neither possess nor acquire any sufficient conception of the responsibilities of citizenship, but underlive and outvote us, degrade our culture and confuse our politics. And yet we cannot do without them. Modern industry demands a permanent supply of laborers.

It is all very well for Franklin K. Lane to complain that the laboring man is reprehensibly blind to the opportunities for self-improvement which American life affords, and is too ready to consider himself a laboring man and nothing else; the fact remains that, if the laboring man should refuse to stay put, one of two things must happen—either his place must be filled by others who *will* stay put, or the whole present industrial system must be jeopardized.

The author suggests one method of protection. Fire may be fought with fire. Class must breed class. The Middle Class must come to itself and assert itself as a unit. Here is a tremendous opportunity for the newly enfranchised Woman. Our political method must readjust itself to the new industrial divisions that prevail. We may as well recognize the fact that we are a classified Society, and proceed accordingly.

One may agree with the author or not, but one cannot help being stimulated by the perfectly bold way which he grasps the nettle and faces the issue.

CHARLES E. PARK.

(In *The Atlantic's Bookshelf.*)

A NEW "LIFE OF CHRIST"

We make no apology for reproducing a subjoined review of a "Life of Christ," written by an Italian author, Giovanni Papini. Most of us have read one or more of the books with similar titles that have been published in the past, and some of which have done much in upsetting the religious ideas of people. We refer, for instance, to Strauss' "Leben Jesu," to Renan's "La Vie de Jésus", to Archbishop Farrar's "Life of Christ" among others.

During the war, it seemed as though the religious life would be deepened and intensified. The prevailing post-war hysteria seems to have disappointed expectations. Whatever

Life of Christ, by Giovanni Papini, translated by Dorothy Canfield Fisher. New York: Harcourt, Brace & Co. 1923. 8vo. vi+416 pp. $3.50.

may be our position regarding orthodox Christianity, the appearance of a new book on an old topic is interesting. Moreover, Mr. Bradford's review, as it appeared in *The Atlantic's Bookshelf,* appeals to us. It is for this reason that we reproduce it in the following:

THE modern biographer, who has endeavored to analyze and resuscitate the great historical figures of the past, to take the dead material of document and record and extract from it the enduring element of vital personality, is naturally tempted by the life that has done more to transform and transfigure the world than any other that has ever been known. But the biographer shrinks from the utter impossibility of the task. Material such as he demands is wholly lacking. Written words of Christ Himself do not exist, Words and acts attributed to Him by others have come down through such a mist of confusion, transformation, misunderstanding, misinterpretation that a careful, scientific study of the fundamental personality seems quite hopeless.

But this very fluid, mobile condition of the material, which is the despair of the biographer, is clear gain for the spiritual interpreter, who is looking, not for historical portrayal, but for emotional result.

And he who would effect this spiritual end is wholly right to approach the subject as Signor Papini does, casting away all critical apparatus and all nice and sceptical discussion, going straight to Christ's divine origin, his divine mission, his divine endowment. Ever since the Reformation the Protestant world has insensibly, logically, been making the figure of Jesus the object of a process of attenuation, explaining away, lopping off, cutting down this attribute, reducing that, till there was nothing left but the pale shadow of New England Unitarianism. And shadows may blight the world—they cannot make it over.

What Christ has done for mankind has been done as God not as man. [Italics are ours.—ED.] Ethical teaching may be helpful, may be comforting. But all through these long centuries, what has really taken hold of agony and sin and sorrow has been the divine personality made flesh, knowing all the weakness of earth and pouring upon it all the strength of heaven. *Among the varied and crying needs of the modern world none is greater than that of such an immediate personal contact with the Divine.* 'There never was a time more cut off from Christ than ours, nor one which needed Him more,' says Signor Papini, with absolute truth. To meet this need he re-tells the old story, but with a certain fresh and fiery ardor; takes what we have all known from childhood, but brings it, as it were, right up to date; gives it an indefinable color and vigor of modern touch; shows that *the Christ-Ideal is so simple that a child can understand it, yet so difficult that the wisest can realize it only by getting rid of their wisdom and becoming as little children.* To get this result, he employs often the methods of melodrama, and he would be the last to deny it. He would say, perhaps with justice, that an age which battens on the sensations of the movies can be touched only by what stirs and stings it to the point of actual pain. But he would say further, and many of us will agree with him, that, *if the twentieth century is to be regenerated by Christianity, it can be only by the Christianity of Christ.*

GAMALIEL BRADFORD.

"MEDICAL CLINICS OF NORTH AMERICA"

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. 6, No. 4. January 1923. Philadelphia Number. Philadelphia: W. B. Saunders Company. Price, per clinic year (July 1922 to May 1923), Paper $12.00; Cloth $16.00

It is but natural that the Philadelphia Number of the Medical Clinics should contain a large number of interesting articles. We find for instance, a report of two cases of Addison's disease; a discussion of coronary thrombosis; one of tuberculous pleurisy; one of tumors of the mediastinum. Other subjects of great interest are aneurysm of the aorta; syphilis of the kidney; bronchoscopy; hemoptysis, among many others.

HARROWER'S MONOGRAPHS

The first number of Vol. 2 of Harrower's Monographs on the Internal Secretions is devoted to the adrenals in every-day medicine. The eighty-two pages of text which this pamphlet contains are divided in six parts, namely: Introduction, dealing (among other things) with anatomy, physiology and function of the adrenals; the etiology, discussing the consequences of adrenal depletion, the influence upon their function of drugs, alcohol and coffee; clinical manifestations of conditions requiring "adrenal support"; the diagnosis of adrenal insufficiency; the treatment and the bibliography.

Harrower's writings are always forceful and clear. His contributions to literature, whether they are advertising or purely technical, always can be read with advantage. We enjoy these monographs and consider them as valuable contributions to the literature of endocrinology.

"ANNALS OF MEDICAL HISTORY"

The last number of the fourth volume of *Annals of Medical History* (1922, December) carries as its frontispiece a beautiful picture of the late Dr. S. Weir Mitchell and contains the Weir Mitchell Oration delivered at the College of Physicians, Philadelphia, Novem-

ber 23, 1922, by Dr. Charles L. Dana, of New York. Other items of interest are a sixteenth-century Latin poem on the diseases of nurslings, and an article on Guy Patin and the medical profession in Paris, in the seventeenth century. One of the editorials reviews briefly the needs for a special medium of publication in which strictly historical medical writings might be printed. Attention is drawn to the earlier periodicals of this kind, some of which were short-lived chiefly owing to lack of support on the part of the medical profession.

The *Annals of Medical History* was born in 1917, during the storm and stress of the World War. We can well realize how much courage and perseverance was required of its publisher to persist in his plan through the years that have passed and we honor him for the unselfish tenacity of purpose that urged him to continue in this work, which could never be financially successful in so far as making money is concerned. Still, even though handicapped (financially speaking) by the fact that *Annals of Medical History* carries no advertising of any kind and no purely entertaining reading matter, a journal of its kind can and should be self supporting. There are sufficient members of the medical profession interested in the study of medical history to maintain such a special publication and to relieve the publisher of financial worries. This is particularly desirable in view of the excellence of the *Annals*. It is undoubtedly the most beautiful medical journal published. It is, we might say, perfect in make-up, remarkably attractive as to contents and above criticism in its general policy. This editorial writer has many times congratulated himself on having subscribed for the *Annals* beginning with the first issue. The undertaking is worth while and we urge more to the support.

The *Annals of Medical History* is published by Paul B. Hoeber, 67-69 E. 59th St., New York. It appears in four large quarterly issues at the modest subscription price of $8.00 per annum.

WILLIAMS: "OPIATE ADDICTION"

Opiate Addiction. Its Handling and Treatment. By Edward Huntington Williams, M. D. New York: The Macmillan Company. 1922. Price $1.75.

Doctor Williams follows Bishop largely in viewing drug addiction, especially opium addiction, as a disease and not as a vice. That being the case, he justly maintains that laws regulating the prescribing and dispensing of opiates should be dictated by physicians and not by politicians.

Speaking of the gradual reduction treatment which is deprecated and, in fact, has been declared as useless by the Commission in Washington, Williams affords ample evidence to show that, in properly-selected cases, the method is decidedly successful and feasible. Emphasis must be laid, however, on the proper selection of patients subjected to gradual reduction treatment. Under all circumstances, the patients should be under the absolute supervision of the physician and of experienced and reliable nurses.

After an introduction, the author discusses the nature of opiate addiction, the gradual reduction treatment, useful hypnotics, the rapid withdrawal methods, characteristics of hyoscine delirium, and then devotes a chapter to comments and observations. The Reviewer has found this little volume instructive and interesting. In view of the unsettled state of the narcotic drug situation, it would be well for physicians to inform themselves fully concerning it. Doctor Williams' book will assist greatly in doing so.

LAMSON: "HEART RHYTHMS"

The Heart Rhythms. By Paul Dudley Lamson, M. D. Baltimore: Williams and Wilkins Company. 1921.

Here is a book that will appeal to those physicians who devote special attention to diseases of the heart and of the circulatory organs. We do not mean to suggest that only specialists are interested in it; indeed, the subject of heart rhythms must be understood by the general practitioner and, in this little book, it is lifted out from a mass of extraneous material in which it is buried in other textbooks and is treated by itself.

COAKLEY: "NOSE AND THROAT"

A Manual of Diseases of the Nose and Throat. By Cornelius G. Coakley, A.M., M.D. Sixth Edition, Revised and Enlarged. Illustrated. New York: Lea & Febiger. 1922. Price, $4.25.

Doctor Coakley's manual of diseases of the nose and throat is intended to meet the needs of students and practitioners. It is, therefore, useful for the general practitioner; and the concise, lucid text, as well as the generous illustrations, make it very acceptable for the study, recognition and treatment of those affections of nose and throat that the general practitioner can properly handle.

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Colonel Ernest L. Ruffner
Medical Corps, United States Army

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 30, No. 6 JUNE, 1923

Colonel Ernest L. Ruffner

COLONEL ERNEST L. RUFFNER was born in Kansas, on December 10, 1870, as the son of a distinguished officer of the Engineer Corps, U. S. Army, which circumstance is responsible for his being a hereditary companion of the Loyal Legion.

He graduated, at the age of twenty-four, in medicine, from the medical department of the University of Buffalo, and served with the 65th New York Infantry as captain and assistant surgeon, during the Spanish-American War, at the conclusion of which he was honorably mustered out of the service and returned to civil life.

Civil life failed to fascinate the young surgeon and, less than three years later, he chose the Army for his life's vocation. After having successfully passed the rigid entrance examination, he was appointed a first lieutenant in the medical corps and ordered to the Army Medical School. Five years later, after having served as a junior medical officer at several United States and Philippine Island army stations, he was promoted to the grade of captain, and on January 1, 1910, he rose to field rank.

One of his assignments was that of inspector-instructor to the National Guard. During the several years of this tour of duty, Colonel Ruffner rendered exceedingly valuable service, not only by developing the proper military spirit among the medical personnel of the National Guard, but also by teaching them many important things of a strictly professional character.

He early condemned the idea of having the enlisted men carry the heavy litters on long marches, somewhat in the same manner as the doughboy clings to his rifle, teachings which were, then, almost sacrilegious. Asking a man in the ranks of an ambulance company what he would do if a comrade reduced a compound fracture of his leg, with one bone sticking out of the wound, and receiving a hesitating, unsatisfactory answer, he would say: "I'll tell you what I would do; I would draw my automatic and kill him, so he would be prevented from sending other unfortunate comrades to their graves."

Not one man in such a company could ever forget the lesson.

In May, 1917, Colonel Ruffner, while surgeon of Training Camp at Fort Benjamin Harrison, Indiana, exchanged his gold for silver oak leaves and, in December of the same year, he pinned the silver spread-eagles of a colonel to his shoulder loops.

He was ordered to France early in the war

and was detailed as the chief surgeon of the Intermediate Section, a large part of France between the front and the base sections.

The administrative problems have been exceedingly difficult, as can be sensed from the personal reminiscences of our Dr. Blech, who gave a graphic description, in preceding issues of the *Journal,* of the obstacles confronting Americans in the establishment of military hospitals. But Colonel Ruffner was responsible, not only for many important hospitals in his domain that were organized to take care of the battle casualties, but also for many camp hospitals for the numerous garrisons stationed in his jurisdiction.

This huge task was accomplished to the utmost satisfaction of all concerned. The Distinguished Service Medal is the outward token of an appreciative government, while the French military authorities, recognizing his value and ability, conferred upon him the rosetted medal of the Legion of Honor, class of officer, considered a very high decoration for officers below the grade of a general officer.

Colonel Ruffner has also been honored by the American medical profession by being made a Fellow of the American College of Surgeons.

Thousands and thousands of American soldiers owe their restoration to health directly and indirectly to Colonel Ruffner's energy and circumspection. He not only stands out as one of the foremost medical figures of the World War, but as a great teacher and organizer whose influence will be felt for many years to come.

Give us a religion that will help us to live—we can die without assistance.—Elbert Hubbard.

THE STATUS OF INSULIN

The possibilities of insulin in the treatment of diabetes mellitus are very naturally the subject of great interest to many physicians. *The Journal A. M. A.* (April 28, p. 1238) contains a special article in which the literature on insulin has been reviewed. We reproduce the conclusion of the writer of this article, which is informative.

"It appears that, as a result of a vast amount of research on diabetes mellitus, and still earlier on the physiology and pathology of the pancreas, researches by numerous investigators all over the world, conducted largely on experimental animals, as well as with human beings, there has finally been evolved from the pancreas a principle which has a specific effect on the carbohydrate metabolism of the body. The effects of this extract have been thoroughly studied, and its limitations rather clearly defined. A method of assay is being perfected, so that it appears likely that the product will shortly be made generally available to the medical profession. Improperly used, results may occur of such seriousness as to interfere greatly with establishing the true worth of the product. To secure proper results, a knowledge of scientific dietetics is necessary, and carefully controlled laboratory observations are important. Physicians who plan to use the remedy must inform themselves fully of its potency, the symptoms of danger, the proper methods of administration, the proper methods of antidoting unfavorable effects, and the correct manner of evaluating results. If these precautions are observed, there seems to be no reason why any well trained physician should not be able to use the remedy satisfactorily." [See p. 395.]

SAFE SUBSTITUTES FOR COCAINE

In a helpful article appearing in another department of this issue of Clinical Medicine (p. 401), Doctor King suggests the employment of preparations of cocaine, usually in combination with adrenalin solution, for the purpose of obtunding the sensitive nerve fibers that are cut or injured in operation for hemorrhoids and other rectal lesions.

We had been under the impression that cocaine is used very much less for producing local anesthesia than it was before the introduction of procaine (originally known as novocaine) and still more before the latest local anesthetic, butyn, became available. Procaine, be it said, has about the same efficiency in obtunding nerve endings, sensory nerve fibers and nerve trunks as has cocaine, and it is active in fairly low-percentage solutions. Thus, a 0.25-percent solution is as promptly analgesic, intracutaneously, perineurally or intraneurally, as cocaine, and a 1.5-percent solution suffices to obtund in about ten minutes such thick nerve trunks as the sciatics and sacrals. When applied locally to mucous surfaces, such as the cornea and nasal membranes, procaine solutions are less efficient than cocaine, although practically non-irritant. Adrenalin may be added to procure ischemia of the operative field. In minimal quantity, it is a desirable addition aside from this. By its vasoconstrictor action, it holds the procaine in the operative field, so that less is needed to sustain the anesthetic effect and it is more slowly released into the circulation.

When employed in normal dosage, procaine exerts no effect upon respiration and circulation. While clinically efficient as a local anesthetic, as is cocaine, for most purposes, it is about seven times less toxic in corresponding dosage. Moreover, it is not a habit-forming drug and does not produce "jags," such as sometimes follow the administration of cocaine. Nor does it precipitate excitement when used in conjunction with general anesthesia for operations under anociassociation.

By way of precaution, it is well to remember that local anesthetics in general should be used very cautiously in patients whose hemoglobin test and blood-pressure reading indicate hemorrhage (actual or concealed), primary or secondary shock, circulatory stasis with deconcentration of blood volume or cardiac depression from increased heart load.

It is always advisable, just as in other anesthetics, whether general or local, to use only preparations that are freshly and properly prepared. The solutions should not come in contact with anything but the containers in which they are mixed, diluted or sterilized and the syringe with which they are injected. The syringe must be scrupulously free from sterilizing fluids and, of course, must be rendered aseptic by sterilization.

It may be added that operations like those described by Doctor King have been carried out successfully with procaine anesthesia, in some cases adrenalin solution having been added to the anesthetic.

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The continued and persistent search for a safe and yet efficient substitute for cocaine led, a few years ago, to the discovery of butyn which eventually was submitted to the Council on Pharmacy and Chemistry of the American Medical Association, and on which Dr. Albert E. Bulson, Jr., of Ft. Wayne, Indiana, reported for the Committee on Local Anesthesia, Section on Ophthalmology of the American Medical Association (*J. A. M. A.*, Feb. 4, 1922, p. 343-5).

Butyn has proved particularly effective when applied to mucous membranes. It was first tested out by ophthalmologists, and the present writer was told by a friend of his that its action was exceedingly prompt, it being merely necessary to paint the conjunctiva, for instance, with butyn solution, after which he could take his knife or other instrument and proceed to operate without causing pain.

In Doctor Bulson's report, various points of advantage are enumerated for butyn:

1.—It is more powerful than cocaine, a smaller quantity being required.

2.—It acts more rapidly than cocaine.

3.—Its action is more prolonged than that of cocaine.

4.—According to our experience to date, butyn in the quantity required is less toxic than cocaine.

5.—It produces no drying effect on tissues.

6.—It produces no change in the size of the pupil.

7.—It has no ischemic effect and, therefore, causes no shrinking of tissues.

8.—Solutions can be boiled without impairing their anesthetic efficiency.

While butyn has been used more frequently in eye, ear, nose and throat work, it has also been found effective in operations on the genitourinary passages (see, for instance, Dr. F. S. Cary, this journal, December 1922, p. 891) and likewise in operations on the rectum.

Altogether, butyn appears to be an exceedingly satisfactory local anesthetic, and it is recognized as such in many places, as will be seen from the following interesting article in which a correspondence to *The Lancet* (London) is reproduced which was sent in by a medical practitioner in Bath, England. It is addressed To the Editor of *The Lancet:*

Sir—The use of Butyn as a local anæsthetic appears to have aroused interest, in more than one branch of surgery, as an alternative for cocaine. Further experience convinces me that it is something more than an alternative, for its action is superior in several respects. A comparison of Butyn with cocaine shows an advantage for the former in all respects. The desired effect is attained with a smaller quantity of the drug, with a quicker action, and more profound result. The accommodation is not paralyzed and consequently the pupil is not dilated. Butyn does not appear to have any toxic effect, and it is never injurious to the cornea.

For the removal of foreign bodies from the cornea, a drop of 1 percent solution almost immediately produces anæsthesia. For cataract operation, a 2 percent solution preceded by a tablet of adrenalin (0.00006 Gm.) is ideal. The absence of dilatation of the pupil justifies its use in glaucoma as an analgesic in combination with eserine or pilocarpine. For glaucoma operations it can be safely used to produce local anæsthesia. In the treatment of keratitis, in which cocaine is liable to produce corneal exfoliation, Butyn can be instilled without anxiety. Operations on the muscles may be performed with infiltration anæsthesia, a 0.5 percent solution being employed; 1 c.cm. of the solution is used or even more in these cases, and the reports from America are highly satisfactory. For cataract operations and for iridectomy I have used a 2 percent solution of Butyn in place of cocaine in 20 cases and have always been well satisfied with the action of the drug. In each case the instillation was preceded by a tablet of adrenalin.

For nose, throat, ear, and genito-urinary operations 2 percent to 5 percent solutions are recommended, according to the depth of the anæsthesia desired. The less toxic effects of Butyn compared with cocaine enable the surgeon to use it without fear in these cases. It can be sterilized by boiling without affecting its anæsthetic qualities.

In dental surgery Butyn is extensively used in America both for infiltration and conduction anæsthesia. Chlorides should not be used with Butyn as they cause the latter to crystallize out of solution. No toxic effects have been observed, either in experiments on animals or in the clinical use of Butyn.

In conclusion, not only in ophthalmology but also in all other branches of surgery the use of Butyn

appears to be co-extensive with that of cocaine. If after weighing the two drugs in the scales of experience it is found that we have a synthetic supercocaine which renders the old and hitherto essential drug superfluous, our patriotic and social duty is obvious. *For if medical science can banish cocaine from the Pharmacopœia, without loss to the healing art, a step will be taken towards the elimination of the drug-trafficker and the rescue of his victims.* [Italics ours. Ed., Clin. Med.]

I am, Sir, yours faithfully,
W. M. BEAUMONT.

Bath, July 31st, 1922.

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In addition to *The Lancet* article, we may be permitted to copy a letter that has appeared in the *London Times* and was signed by Sir W. M. Bayliss and Dr. C. W. Saleeby. Doctor Bayliss is probably the best known physiologist in England, and Doctor Saleeby one of the best known physicians. It may be added that it is extremely unusual for the *Times* to make favorable mention of a proprietary article. The admission of this letter in praise of butyn must be taken as evidence of the sincere wish to eliminate the dangers arising from cocaine abuse and which are possible even under legitimate employment of this drug.

To the Editor of The Times:

Sir.—*We submit that the abolition of the use of cocaine by international action is the only effective means of ending the evils to which this drug gives rise, and that this is now feasible without detriment to any department of surgical medicine.* [Italics ours. Ed., Clin. Med.]

The failure, everywhere, of all past or present methods of control is acknowledged. One of us has recently observed, in Montreal, the futility of the combined efforts of the police, the health authorities, and the Customs officers, and he has returned to Europe to find similar failure alike in this country and in France. Montreal, it may be noted, is the headquarters for the illicit distribution of the drug in North America. It is evident, and for evident reasons, that so long as the drug is manufactured it will be misused. In the light of the experience of other countries, we are entirely sceptical of the success of the new legislation proposed by the Home Office.

The Committee on the Use of Cocaine in Dentistry reported in 1917 (Cd. 8489), suggesting further restrictive legislation. One of the present writers, serving on that Committee, did not sign the report, but appended a memorandum in which the view was expressed that, according to the evidence of leading dental surgeons, cocaine was no longer needed in dentistry, completely effective substitutes, such as nocaine [Procaine.—Ed.], being available.

A new synthetic substitute, known for short as "butyn," has now been prepared in Chicago, and tested widely with very good results. Like novocaine, it has no action on the central nervous system. A highly favorable report on its use in ophthalmic practice appeared in the *British Medical Journal* for January 13, last. Its introduction completes the argument advanced in 1917.

International action should, therefore, be taken to end the present manufacture of cocaine in Germany and Switzerland or elsewhere, and the cultivation of the coca plant in Peru, Java, Bolivia, and other countries. The best instrument for such action, given an instructed and active public opinion in the various countries concerned, is the Opium Committee of the League of Nations. Though neither the United States nor Germany is as yet a member of the League, both of these countries are represented on the Opium Committee. We urge that our government should give full and cogent instructions in this sense to Sir Malcolm Delevigne, the British representative on the Committee, prior to its next meeting in May. This, we are convinced, is the only way with cocaine.

We are, Sir, yours, etc.

E. M. Bayliss,
C. W. Saleeby.

Further commendatory articles appeared in the *British Medical Journal* for January 13, by Dr. W. M. Beaumont which have made such an impression that butyn has been suggested in all seriousness as the shortest way out of the cocaine evil to suppress the manufacture of cocaine for all but scientific research.

U. S. PHARMACOPŒIA TRUSTEES' MEETING

The Board of Trustees of the United States Pharmacopœia met in Cincinnati on May 4 and 5 for the transaction of business connected with the publication of the Tenth Edition of the United States Pharmacopœia, the manuscript of which is rapidly nearing completion. The members of the Board in attendance at the meeting included: Dr. Solomon Solis Cohen, Philadelphia; Dr. Henry W. Whelpley, St. Louis; Dr. James H. Beal, Urbana, Ill.; Dean F. J. Wulling, Minneapolis; Prof. E. Fullerton Cook, Philadelphia; Samuel L. Hilton, Washington.

At the dinner where the members of the board were entertained, Dr. Solomon Solis Cohen gave an address which took the form of an earnest plea for a comprehensive pharmacopœia in which would be included all the medicaments of well-established value. He said that he was much pleased to note a recession in the tide of therapeutic nihilism which had swept over the medical world, and indications of a return to the conservative but intelligent use of medicines. Digitalis had recently been discovered in Boston, and Codliver oil in Chicago.

He himself had edited a shelf of books devoted to therapeutic measures other than drugs, but he was thoroughly convinced of the great value of drugs when properly administered. He decried the negative attitude of those pharmacologists who, because they were unable to register in their experience certain results reported by clinicians, denied accuracy of the clinical observer. He said that, while the work of the pharmacologist was of great value, it was necessarily coarse in its results as compared with those obtained by the experienced and competent physician at the bedside. While he acknowledged the value of the service rendered by the pharmacologist, he protested strongly against the negative dicta so frequently put forth by certain pharmacologists.

[To all of which remarks by Doctor Cohen, we utter a fervent Amen!—Ed.]

STANDARDS OF PUBLIC SERVICE

The following editorial appeared in the *Chicago Daily News* during the last days of of March, while the campaign for the election of the Mayor was in full force:

Some day, perhaps, the self-governing people who inhabit this happy-go-lucky country will cause to be prepared by practical economists a well-rounded treatise on "Business Principles in Government" and will require candidates for public office to pass a satisfactory examination on its contents before consenting to put them into positions of authority. Certainly, the people ought to do something of this sort. For, the theory that any person who wants a public office is entitled to have it, regardless of any lack of qualifications on his part, provided he can induce the voters in their abounding charity to give it to him, is an absurdity on its face.

Standards of service are established for policemen and for subordinate clerks in public offices, but assurance and the power to get votes seem to be the qualifications ordinarily required of men who fill the great executive positions within the gift of the people. The requisite popularity comes readily enough from being a good fellow, until the charm of mere good fellowship wears thin and exposes base metal beneath. Just why there has been no plan devised for establishing standards for men who aspire to elective offices, is a question worthy of the people's serious attention.

It is not difficult to find the reason for this state of things. Party managers want success before everything else, since success means power and patronage for them to distribute. So they seek "available" candidates. But availability is very different from capability. Not infrequently, a candidate is "available" from the politicians' point of view merely because he pledges himself to take orders from them in the event of his election.

The people should do habitually what they have done in the present instance in Chicago, where party leaders found themselves compelled to seek out men of high character and proved capacity as their candidates for mayor, realizing that any other action would bring a revolt of the citizens.

The process of getting good candidates is simple when the voters are aroused. Low-grade men insinuate themselves into high public office mainly because of indifference or worse on the part of the intelligent elements in the community. The present campaign, which finds the voters aroused and alert, is the antithesis of those past inglorious campaigns in which, to the infinite harm of the citizens, quarrelsome factions and confused thinking by the community's good government forces gave over the city to unworthy men for selfish exploitation.

Having adopted this time the right policy with gratifying results, the citizens henceforth should "accept no other."

We have reproduced this editorial in toto, leaving it to our readers to make their own application in the case of those who offer to treat sick people. It declares that, some day, perhaps, the people will require candidates for public office to pass a satisfactory examination before consenting to put them into positions of authority. It says that standards of service are established for policemen and for subordinate clerks in public offices. It might have added (as Doctor Rittenhouse mentioned in one of his articles) that engineers and taxicab drivers are required to pass strenuous examinations and to show that they are able to run engines and motor cars without endangering the lives of pedestrians.

Efforts are being made, and have been made for long, in every state legislature, to make it possible for illiterate and insufficiently trained persons to offer their services in medical practice on the basis of examinations that are far less searching and stringent than are those to which graduates of reputable medical colleges are obliged to submit.

The license for the practice of medicine has justly been hedged about with numerous severe restrictions and it has been made impossible for those possessing the degree of Doctor of Medicine to engage in practice without a protracted and strenuous course of study and without having passed a searching examination. Through some incomprehensible want of logic, which would be laughable if it were not so serious, all sorts of people are given the all but unrestricted right to practice on their declaration that they do not employ drugs and do not practice surgery. The lawmakers (not only those of Illinois but those of other states as well), do not seem to realize that the prescribing of drugs and the practice of surgery comprise only portions of the practice of medicine and that there are a great many important factors concerned in the problem that open the door to the "irregulars" and to their pernicious practices—to the detriment of the people.

If the people want to entrust their bodily welfare to Christian Scientists, to Chiropractors and all the rest of them, there can be no constitutional or other reason why they shouldn't do so; with the only provision, that those who offer their services along special lines shall be compelled, before receiving a license to practice, to pass the same searching and severe examination, to supply the same proofs of being able to recognize disease and to deal with it, as do regular physicians.

Fair play is one of the basic principles of

the American constitution. Class legislation is abhorrent to it. Discriminating legislation is un-American and it may become not only inhuman but silly. To pass laws favoring those who are manifestly less well equipped to deal with sickness over others who have complied with the proper and necessary conditions, is a bit of absurdity that can not be criticized too harshly.

HYPODERMIC INJECTIONS

Only recently, we recorded it as our opinion, dictated by years of experience, that hypodermic injections are not dangerous in themselves, providing that precautions of cleanliness are observed. Naturally, this did not refer to the danger possibly inherent in the remedies that are introduced into the circulation in that manner. We were speaking merely of the technical phase of the operation.

That it is, nevertheless, possible for accidents to happen is shown by a case report published in the *Journal A. M. A.* (July 14, p. 1066), reporting a case of gas-bacillus infection within twelve hours after the hypodermic injection and occurring at the site of the puncture. The report deals with a man, aged twenty-six, who had been given a hypodermic injection of morphine sulphate after laparotomy. The morphine (¼ gr.) induced a typical morphine narcosis with cyanosis, contracted pupils, slow and stertorous breathing. This was combated by another hypodermic injection, atropine 1-150 gr., in the outer aspect of the right thigh. The site of the injection was prepared by wiping with alcohol; the hypodermic syringe had been sterilized by the hospital sister. This was at 4:10 p. m.

The next morning, there was much pain in the right thigh, with redness, ischemia, but no crepitation. However, swelling and redness extended and, soon, crepitation was distinctly perceptible. The temperature went to 104° F. A diagnosis of gas-bacillus infection at the site of the hypodermic puncture was made. The leg was opened; examination of the smears proved positive for B. aerogenes capsulatus, Welch, 1891. A long incision was made through the fascia lata, and copious applications of hydrogen peroxide. The patient grew steadily worse and died twenty-four hours after the first hypodermic injection.

Careful laboratory tests of the remaining hypodermic tablets, syringe and needle were negative. A possible clue to the source of the infection may be found, however, in the history subsequently obtained from the wife, that the day prior to the patient's coming to the hospital he had spent a portion of the afternoon in cleaning the stable. The author concludes that the custom of spotting the site of an intended hypodermic injection with iodine is superior to using alcohol, especially in view of the quality of the latter as it is now so commonly found on the market.

Modern business men of the highest and finest type are not the overseers or taskmasters of their employes. They are their friends and helpers. Co-operation is the Big Idea in Modern Industry. Team Work is the thing that counts.—Elbert Hubbard.

THE DOCTOR'S PILL

A few weeks ago, addressing the sixty-fifth annual convention of the American Chemical Society, Dr. Arthur D. Hirschfelder, of the University of Minnesota, declared that the 1923 model pill, as prescribed by a modern physician, is as different from the pellet of the Victorian era as it can well be.

"In the old days, in order to give one substance required, the physician had to prescribe a drug containing perhaps a dozen or more substances, some of them possibly harmful or productive of unpleasant effects.

"Nowadays, the chemist dissects the drug, takes out the one substance required and throws the rest away. Although many of the drugs like morphine, strychnine and digitalis have come to us, ready-made in plants, or in the glands of the animal body, the tendency in modern pharmacology has been, to develop new chemical substances, exactly suited to a definite purpose, which shall have the highest possible medicinal power, coupled with the least possible harmful or unpleasant effects.

"Among the hundreds of thousands of known chemical substances, relatively few have come into use as medicines. Occasionally, new experiments on animals have shown that well-known substances have medicinal properties never suspected.

"Usually, the best medicine is never the first substance that is tried out, but often hundreds of new substances must be made in the laboratory and tested out on animals before the best medicine for a given purpose is arrived at. Often, a drug is found to have a certain action but is too poisonous or too irritating for use as a medicine.

"Ten years ago, Morgenroth in Berlin found a derivative of quinine would cure mice infected with the germ of pneumonia. Later studies have shown that this is too poisonous for use by man, but can be used for local infections due to this germ. We have been investigating further to determine just what part of the quinine molecule is necessary for this action and whether less poisonous substances could be made which might have the same curative effect."

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All this is very interesting and consoling. It is some thirty years, we believe, since the

struggle started for the recognition of alkaloids and other active principles of crude drugs: positive and definite remedial agents, which, it was claimed even then, were far superior to the crude tinctures, powdered extracts and fluid extracts which contained so much extraneous matter, that might be inert but often has undesirable by-effects. If it is considered that, until quite recently, the physiological effects of drugs were tested by means of crude preparations, it must be realized that much of the darkness existing in this matter was unavoidable. Since, more recently, drug effects have been tested on the basis of the active principles, the action of belladonna, for instance, being determined by that of atropine, the chapter of drug action has been rewritten to a certain extent and the result has been a more definite, more deliberate and more successful employment of drugs.

After all, it matters little who started the "fight" against therapeutic nihilism that threatened to make nugatory the efforts of the physicians, more than a quarter-century ago. The important point is that, to quote Barker, of Baltimore, "we are now witnessing a cautious revival of the use of drug in the treatment of disease." As a matter of fact, therapeutics as practiced by the majority of general practitioners in this country has been cautious, to be sure, but, nevertheless, courageous and confident, for many years, partly with the aid and because of the employment of active principles, of positive, definite drugs possessing positive and definite actions, and partly through the utilization of the beautifully-prepared and reliable Eclectic remedies (Heresy? Not a bit of it. Only the Truth), the action of which had been studied so closely by the bedside and recorded in Eclectic writings.

It may be true, and it is true, that the principal service given by the physician to the patient consulting him is no longer the prescription or the box of pills, the powders, or a bottle of medicine. The most important thing is the instruction in right living and in measures tending to counteract the disturbed body function. Nevertheless, those remedies that are selected to aid in the restoration of health are immensely important and the fact that these remedies are now prepared and selected with greater care and with correspondingly greater certainty of good results constitutes in itself a progress in therapeutics of which the present generation of physicians may well be proud.

HEALTH PRESERVATION BY THE "METROPOLITAN"

"52,000 lives saved in 1922" is the proud claim made on the cover of a little pamphlet containing "a statement of the health work of the Metropolitan Life Insurance Company in the United States and in Canada." It is related how, fourteen years ago, the company saw in the periodical visits of its agents to collect insurance premiums an opportunity to instruct its policy holders in laws of health and hygiene and how it began to show its agents the privilege afforded by this opportunity for rendering unique service. This service took the form of free distribution of booklets and circulars on the care of the child, personal hygiene, cooking, prevalent diseases, etc. There also was organized a free visiting-nurse service to give bedside care to sick industrial policy holders and to Group certificate holders.

The record of 1922 shows that 52,000 fewer industrial policy holders died than would have died under the death rate of 1911. The death rate of the Metropolitan industrial policyholders is declining more rapidly than that of the general population of the United States registration area. It is figured that this means an average of eight and one-half years added to the life of policy holders and a saving of $11,828,743 in death claims during 1922.

We have realized for long that the Metropolitan Life Insurance Company is making unusual efforts to preserve the life and the health of its policy holders. This is in keeping with the trend of times, according to which it is properly deemed more important to prevent illness than to cure it.

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Together with the statement of health work referred to in the preceding article, the Metropolitan Life Insurance Company has issued a dainty little pamphlet, titled "The Lady with the Lamp"; that is to say, Florence Nightingale. Out of Miss Nightingale's work, which she persisted in against odds that we of today can hardly realize, has developed the wonderful nursing service that is now active in the efforts made all over the country toward health preservation. In this particular work, there are engaged more than 12,000 public-health nurses whose ministrations are of essential value, particularly in overcrowded and in isolated districts. Both pamphlets can undoubtedly be procured on application to the Metropolitan Life Insurance Company, of New York.

EYE SIGHT CONSERVATION DAY IN SCHOOLS

Eye conservation is being carried into the public schools of the country in a very practical way as a part of the national campaign by the Eye Sight Conservation Council of America, to better the health of America's millions of school children and industrial workers. There have been distributed to superintendents throughout the country copies of Eye Sight Conservation Bulletin No. 2, which presents a program for Eye Sight Conservation Day in schools. The Council is enlisting the services of the teachers in making visual acuity tests, instructions for which are fully outlined in the bulletin, which states:

"First, Health, Then Wisdom" is an excellent motto and, fortunately, more and more attention is being devoted to the physical well-being of the child in school. A larger percentage of the defects of vision can be effectively detected and corrected with less expense and less difficulty than is true of any other class of physical defect; there is, therefore, less excuse for neglect with respect to the eyes. It is possible for the teacher to render most valuable and helpful assistance by personal interest and service, as outlined in this pamphlet."

Superintendents and health officers are urged to institute Eye Sight Conservation Days, if consistent with their present school-welfare programs. It is not the desire of the Council to suggest or recommend anything that may not fit in with the regulations of the various departments of education. It is not offering a substitute where there are adequate provisions for visual-acuity tests of the school children. However, it is in comparatively few communities that school children receive even the most superficial eye tests, and, in the majority of schools, there is little or absolutely no attention given to this important matter. The program as presented in Bulletin No. 2 outlines a procedure suitable for large schools; for the schools with a number of rooms; or for the little red school house of one room in the most remote district.

The object of an Eye Sight Conservation Day in Schools is, to discover the fact that a child has a defect of vision or symptoms of a defect, rather than to determine the degree of deficiency.

Eye Sight Conservation Day should be observed semi-annually, shortly after the beginning of each school semester, and should be an integral part of the general school program. On this day, the educational program should be omitted until the tests and observations have been completed.

This is not a "day" arbitrarily set for National observance, nor is any particular date suggested. The matter of the date is immaterial and is necessarily best decided by the educational and health authorities in different communities. It is of moment, though, that the health and educational authorities appreciate the importance of having visual-acuity tests made of every school child.

The Eye Sight Conservation Council, with national headquarters at the Times Building, New York City, furnishes a vision chart for schools and in addition to the program for Eye Sight Conservations Days in Schools, has published other pamphlets and a series of folders. The folders present in story form the message of eye care, and the intent is, to change the seeming indifference of some parents into a realization of the actual need of attention being given to the eyes of school children.

The Board of Education of New York City, in observance of Health Day, distributed 215,000 copies of one folder published by the Council, placing these in the hands of every child with manifest defect of vision, with instructions for the child to take it home to parents or guardian.

The Council will welcome inquiry from any educator interested in the cause of conservation of vision. Every teacher in the country should read Bulletin No. 2 and the other publications of the Council.

Few can pay the price of Hemlock; few are worthy of the Cross; and few indeed, could meet Great Opportunity, even if Fate supplied it.—Elbert Hubbard.

UNCLE SAM SENDS TO GERMANY FOR WITNESS TO TESTIFY AGAINST THE CHEMICAL FOUNDATION

The first witness on the case of the United States of America, Plaintiff, against The Chemical Foundation, Incorporated, defendant, was Dr. Karl Holdermann, of Ludwigshafen on the Rhine. His testimony began on the eighth of May, 1923, before the District Court of the United States, at Wilmington, Delaware.

Although called as an expert witness by our Government, and, therefore, supposed to give unprejudiced and unbiased information as to the value of German patents in this country,

Doctor Holdermann testified on the stand that he was a member of the firm of the Badische Anilin and Soda Fabrik, a factor in the great German cartel, or trust, known as the Unter-Essen Gemeinschaft. This "community of interests", as Doctor Holdermann expressed it, includes the principal dye and pharmaceutical manufacturers of Germany among whom are the Badische Company, Bayer & Company, the Berliner, Hoechst, Cassella, Weiler-ter-Meer, and the Kalle Companies.

Doctor Holdermann testified that he went with the Badische Company in 1906, and had risen to Assistant Manager, in 1920; further, that his expenses to come to America on this trip, for the purpose of testifying for the United States Government, were paid by the Badische Anilin and Soda Fabrik, or the German Chemical Trust.

What a wonderful witness to give "expert testimony" for our Government, both unprejudiced and unbiased (?)!

Another joker in this preliminary skirmish is the fact that this "expert witness" was supposed to be testifying to the value of German patents *in this country.*

On cross examination by Mr. Kresel, one of the counsel for the Chemical Foundation, the witness stated that the only time he had been in the United States, previous to coming over for this trial, was for two weeks, in 1922, when he came in company with two lawyers, Wagner and Oppenheim, representing the Germen cartel, to institute suits against American manufacturers.

The entire testimony of Doctor Holdermann concerned conditions in Germany prior to and during the war. His opinion of the value of the patents involved was based entirely on their worth to the German monopoly, *not to American manufacturers,* and his knowledge of conditions in this country was shown, on cross examination, to be entirely superficial.

The interest of the German cartel in this suit is easily seen. Their eagerness again to secure possession of the United States' patents is characteristic of the German attitude to our growing chemical industry.

The reason for the Germans taking out so many patents in this Country was disclosed by Doctor Holdermann under cross-examination. Following is the testimony on this point: Mr. Kresel, of Guthrie, Jerome, Rand and Kresel, Attorneys for the Chemical Foundation, is cross-examining the witness.

Question 365: You spoke of about 450 to 500 patents that had been seized here, belonging to your company?

Answer: Yes.

Question 366: Did your Company, at any time since taking out any of those patents and up to the time they were seized, manufacture under any of them in the United States?

Answer: I think not.

Question 377: So that these patents stood here and were taken out by your Company, not with the purpose of manufacturing under them in the United States, but for the purpose of making it impossible for any Americans to produce either the article which was covered by a product patent or use the process, if it was simply a process?

Answer: No, that is not the purpose.

Question 368: What was the purpose in taking out these patents, if during all these years your Company did not turn a wheel in making anything under them in the United States?

Answer: The purpose was to secure us the right of importing dye stuffs and stopping German firms from manufacturing products and importing them; and on the second hand, Swiss firms and British firms from manufacturing them and importing them; and only slightly may it have been to stop American manufacturers from manufacturing them. But, I do not think that this was the idea, *because there were no American manufacturers that we had to fear.*

Question 369: You are quite right. There were none. Now, Doctor, the product patents gave you the right to prevent any other manufacturers from importing into the United States the articles covered by such a patent, did it not?

Answer: That is it.

Question: In other words, with these patents taken from the United States Government, you sought to have a monoply here with reference to such articles as were covered by the product patents, not only a monoply against Americans, but also against any other nationals from any other Government that might desire to import?

Answer: *That is the real nature of a patent, yes.*

Here we have the real German patent philosophy from the inside. To create monopoly, to prevent competition, to control markets—not, to develop an industry in the countries where the patents were obtained, but to stifle such an industry.

Three important points, touched upon in this preliminary hearing, which will doubtless be developed later, are, that the value of these patents to the Chemical Foundation cannot be correctly estimated by a German witness, for the reason that the Chemical Foundation is not a monopoly but, on the contrary, is compelled by its charter to license any qualified American firm to manufacture under these patents; second, that the value of the German patents taken out in this country was greatly

reduced by the misleading, insufficient or incomplete information contained in these patents; and, third, that the United States Government, through the Army, Navy and other Departments, has the right to use, for itself, all the patents purchased by the Chemical Foundation, without royalty.

The entire testimony makes very interesting reading. It is another chapter in the broken romance of German conquest.

Counsel for the defense was perfectly justified, in our opinion, in requesting the court to strike from the record the entire testimony of the eminent expert witness, Dr. Karl Holdermann, who will put in his expense account to the Badische Anilin and Soda Fabrik, Ludwigshafen on the Rhine.

The Court, presided over by the Hon. Hugh M. Morris, District Judge, has taken adjournment until Monday, June 4th.

IS THE EARTH'S CLIMATE CHANGING?

In *"Tycos"—Rochester,* that delightful and beautifully illustrated little house organ published quarterly by the Taylor Instrument Companies, of Rochester, New York (April 1923), there is an article with the title heading this present editorial. The writer of this article says, among other things:

" . . . that man has unwittingly done much in the matter of bringing about climate changes, is very well known; there is evidence that, what is now the Sahara Desert, was once a populous and cultivated district, and it was to some extent the work of man in cutting down the forests which led to its present aridness. It is said that the Great Gobi desert in the middle of Asia was also produced in this way.

"A still more startling change has been worked in our neighbor, Mexico. When the Spaniards conquered the country, they decided to settle down and make it as near like their own Spanish country as possible. Now, as it happens, Spain is a mountainous and bleak country—'a bare rock standing up to two seas,' a poet has called it, and not with any too much poetic exaggeration.

"Mexico is mountainous, too, but was far from bare. It was one of the richest and most beautiful quarters in the globe and, as it turned out, far too beautiful for the tastes of the barbarous white conquerors. So, they cut down the forests, uprooted the plantations and even destroyed the flower patches of which the natives were passionately fond, and made the country as desolate as the Spain they were accustomed to. The result was, that a part of the country, which formerly was in a flourishing condition, is today almost a desert wilderness.

"Changes like these, although not as wilful and wanton as that by the Spanish Conquistadores, are being made gradually in all parts of the world, the United States by no means exempted."

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We in the United States know only too well the deplorable results that a reckless deforestation and even wasteful destruction of timber has produced when there was not a compensatory planting of new trees. Fortunately, the evil is being remedied and strenuous efforts are being made, tending to establish an efficient reforestation. An instance of these efforts is afforded in the following article.

REFORESTATION PROFITABLE

The Chicago Tribune, for May 4, said editorially:

"Preparation by the forest preserve authorities to plant 1,000,000 young trees with fitting ceremonies, as this county's contribution to National Tree Planting Week, should attract the attention of the entire state [And the entire country, we add.—Ed.] to this cause. Too few persons realize how important trees may be to a community. Lack of such realization on the part of farmers and villages is especially unfortunate. An illustration from the April number of *American Forestry* is worth reprinting for its possible stimulation of tree planting.

"'Forty-four years ago,' says this article, 'a New Hampshire farmer dug up some native seedling white pines from a nearby forest and replanted them on an abandoned three-acre hillside pasture. The total cost, counting the value of the land and the cost of planting, was $35. Nearly twenty years later, the farmer died and, among his assets, was this small tract of young pine, for which, much to her surprise, the widow was offered $300. Some fifteen years later, it was purchased by a lumber company for something over a thousand dollars. Today, the timber is worth over $1,500 on the stump. With taxes and supervision for the period estimated at $2 an acre a year, the operation has yielded a return of 5 percent on the total investment and, in addition, a sum equivalent to a yearly net profit of $2.34 an acre.'

"All such farm timber is grown on land otherwise valueless. In addition to proving of cash value more than equal a savings bank account, it confers an indirect profit by sheltering birds which protect the crops from insects, by stabilizing climatic conditions, and by equalizing drainage."

In another issue of the same daily, we learn that a recent survey showed 3,500,000 acres of timber lands within the confines of Illinois. "This is quite at variance with the view according to which Illinois is not considered a lumber-producing state in the class with Michigan, Wisconsin and Minnesota, but it is surely commendable. While this land contains little merchantable timber, it could by proper treat-

[*Concluded on page 420.*]

Leading Articles

Some Present-Day Medical Problems

EDWARD H. OCHSNER, Chicago, Illinois

Attending Surgeon, Augustana Hospital

ALMOST every year, you probably have some officer of the State Medical Society address you, and I presume that, at least every biennium, when the legislature is in session, you have been told that the regular medical profession is in great danger of unfavorable legislation. I am going to repeat that statement. With the legislature now in session, the organized regular medical profession of the state of Illinois is actually up against the most serious condition that it has ever confronted in the history of its existence. My predecessors have had much justification for their statement, and conditions would be infinitely worse than they are if these men, with your assistance, had not constantly been fighting for the rights of the profession and the welfare of the public. We need but harken back a few years, when certain ill-advised uplifters of this country were trying to force down the throats of the people and the medical profession one of the worst schemes that was ever inflicted upon a civilized nation, namely, Compulsory Health Insurance. If it had not been for a few men in the medical profession who saw the danger in time and took up the fight, many of you gentlemen here tonight would probably now be panel physicians, making calls for $1, and you would have a lay-board telling you how to practice medicine. Do you realize that some form of health insurance exists today in nearly every civilized country of Europe, and do you realize that the medical men of those countries are so hamstrung and hobbled that they have virtually lost all of their enthusiasm and ambition, and much of their efficiency? I need but repeat one experience, which illustrates not only the seriousness, but the ludicrous side of this condition. A panel physician of England is reported to have prescribed twelve capsules for a patient. These were, of course, furnished by the state. The patient recovered when he had taken eight, and the panel physician was called upon the carpet by the lay-board, censored and fined, because the board said he should have known better than to prescribe twelve capsules when eight were enough to cure the patient. That is the kind of nonsense we American physicians escaped because a few American physicians were far-sighted enough to sense the danger before it overwhelmed us.

A Single Standard

The big fight on our hands today, gentlemen, is to maintain a single standard for the practice of medicine. Do you realize that, today, under one pretense or another, something like twenty-five cults are clamoring for recognition, for separate examining boards and the right to practice medicine in all its branches? Practically all of these applicants are lacking in proper preparation to do this kind of work. There are men clamoring for recognition by the state of Illinois who have not even a grammar-school education—blacksmiths, street cleaners, etc., who spent four weeks and $300 of good money in a nearby town for a diploma, which they now want recognized by the state. This certainly is a menace to the health and well-being of the general public, and it is our duty to do what we can to prevent it, if possible.

As stated above, there are now about twenty-five cults that are preying upon the credulity of the American public. Osteopaths, chiropractors, Christian Scientists, naprapaths are just a few samples; but, while in the great number lies the danger, therein also lies the hope.

Three Degrees of Gullibility

For the purpose of our study, society may be divided into three classes: First, the class that never tires of being humbugged and fooled; second, the class that is not really happy unless it has been stung once; and,

*Address given before the Chicago Heights Branch of the Chicago Medical Society, February 20, 1923.

finally, the class that practically always plays safe. The same classification holds good in finance or business and in medicine. I estimate that about 10 percent of our citizens will buy every new gold brick that comes along. As soon as they get through paying for one, they buy another, and they keep this up as long as they or their money last. In addition, they will buy every new patent medicine that is sufficiently advertised. They will take up with every new medical fad that comes out. They will go to every new advertising quack that comes to town. They rarely ever have any money and they do not amount to much as citizens. That 10 percent is practically hopeless. They do not want to be saved from physical and financial ruin, and they cannot be saved.

About 40 percent of our people are not quite happy until they are stung once. They buy a gold brick once, and then they are through. They are not quite out of their childhood mentally. They remind me of my son on his third birthday. His mother gave him a birthday cake with three little candles. These were lighted and placed near his plate. He kept putting his finger nearer and nearer to the lighted candles. His mother kept warning him that he would burn his finger. Finally, after the fourth warning, the little fellow said, "but, mother, I want to find out how it feels." Now, this class of our population wants to know how it feels to be stung once financially and once by quackery. After they have been properly trimmed, once in each line, they will go to regular physicians and to responsible financial institutions. This 40 percent is worth saving and worth protecting.

About 50 percent of our people always try to go to reliable business men for advice, to reliable bankers when they have funds to invest and to reliable practitioners when ill.

Unjust Demands of Cults

The first 10 percent cannot be saved, and there is little use in trying. They are not happy unless they are buncoed. The other 90 percent are worth saving and usually can be saved from serious financial or physical damage; but, if you permit those cultists to acquire the sanction and approval of the state, how can that 90 percent know who are dependable practitioners of medicine and who are quacks? I wonder how many have thought of the great importance of this point. The state licenses our state banks, and it says to the people: These banks are periodically inspected and are reasonably safe. It licenses you and me to practice medicine. It tells the people that we have spent a certain amount of time and effort in acquiring our knowledge and that we are reasonably dependable.

Now, what do these cultists ask for? They ask for the stamp of approval of the state, so that the lay individual is unable to differentiate between the true and the false.

These cultists remind me of the cuckoo and the cowbird. By hard work and study the medical profession has made an enviable reputation. The quacks want to acquire that reputation without first earning it. They want to get the good repute of the medical profession without going through the long years of toil such as you and I have had to go through. In other words, they want to appear as the real goods when, as a matter of fact, they are really only counterfeits. The same thing is true of cuckoos and cowbirds. On my little farm in Wisconsin we watched with much interest a pair of song sparrows build a nest, and just about when it was finished Mrs. Cowbird came along and laid an egg in it. When the song sparrows came back and saw what had happened, they tried to throw the egg out, but, failing in this, they covered up the first nest and egg with a new nest. When that nest was ready, Mrs. Cowbird came along again and laid another egg in it. The song sparrows then built another nest on top of the second and, by this time, the cowbird either got tired or ran out of eggs.

Let us take a lesson from the song sparrows. Let us keep right on the job and expose these cultists until they either get tired or run out of bunk and propaganda. If we can keep them from being recognized by the law-giving body of this state for another six months, we will have them whipped, because the 10 percent of the people that are gullible will not be able to feed all the cultists. They will die off from starvation or be forced to return to useful occupations because of their very multiplicity and because of their unreasonable claims and unfair methods.

There is a man in San Francisco who claims that, by putting a drop of blood on a blotter, then putting this blotter in a machine, he can make an accurate diagnosis of the disease of the individual from whom the drop of blood has been taken. One of his disciples goes him one better. He can take the signature of a deceased individual, put it in a machine and tell definitely what caused the death of the individual in question. Their claims become so ridiculous that at least 90 percent of the people will see through them.

There are certain other points of similarity

between some of the medical quacks at least and certain financial wild-cat promoters. The former only too often make widows and orphans, while the latter, after all, only rob them. Both frequently exchange their lists of dupes or sell them outright when they can no longer exploit them.

Not a New Problem

Between the years of 1715 and 1735, LeSage wrote "Gil Blas," a work that made him famous. In it he describes tricks and subterfuges which make one think that he is writing of conditions today. The attempt to capitalize the misfortunes of the sick is as old as human ingenuity and human cussedness.

Eighty-one years ago, Oliver Wendell Holmes delivered two lectures before the "Boston Society for the Diffusion of Useful Knowledge," entitled *"Homeopathy and Its Kindred Delusions."* If we would substitute the word "Chiropractists" for "Metallic Tractors," "Christian Science" for "Homeopathy," other fads now prevalent for "Tar Water," "Weapon Ointment" and "Sympathetic Powder," the whole essay would be admirable and applicable today. At one time, there were in Chicago four flourishing homeopathic medical colleges, with over 1,000 students in attendance. Today, there is no such college and not one student. That system was built on false premises, it was built by monorail minds, and it could not endure the test of time. You cannot cure all of the varied ills of the human body by one formula. It is stupid to believe that you can and, if these cultists and quacks are not recognized by the state, they will go the way of homeopathy, Perkinism, weapon ointment, sympathetic powder and tar water, just as surely as the sun will rise tomorrow.

I do not know how any physician could spend his time more profitably, some evening when not too busy, than by reading Oliver Wendell Holmes' essay on Homeopathy. I do not believe that any medical journal could use its pages better than by republishing that essay today, and I do not believe that any lay journal could render a greater service to the American people at this time than by republishing and extensively advertising that wonderful document.

The regular medical profession never had a more severe critic than was Oliver Wendell Holmes, as one may easily convince himself by reading his essay on the "Contagiousness of Puerperal Fever," and his poem on the "Stethoscope." Oliver Wendell Holmes made this important distinction: he had constructive criticism for things that were worth saving and could be saved, and particularly for the regular medical profession. For, while he recognized its many shortcomings, he also recognized its great possibilities. He had destructive criticism for everything that was false and absurd. His essay of 1842, just referred to, had much to do with the ultimate passing away of homeopathy, and his prophecy contained in that work seems almost inspired in the light of recent developments. The cults of today will all go the way of homeopathy sooner or later; but, in the meantime, if we could prevent their recognition, we might hasten their demise and prevent untold injury to the public.

Three Postulates

Let me read to you three postulates that I have worked out with considerable care. Turn them over carefully in your minds and see what you think of them. Parenthetically, I would say right here that, if there is anyone in this audience, layman or physician, who takes exception to anything that I say, let him get up after I am through, state his position and defend it. I have faith in what I say. I believe in every word I have uttered; but, if I am wrong, I am the first one to want to know it.

Next to the stability of government, honesty of administration and the general intelligence of the people, the welfare of the nation depends more upon the quality of medical service which is rendered to the people than upon any other one thing.

The longevity, health, efficiency and happiness of the people depend more upon the integrity, ability and industry of its medical profession than upon anything else.

The allied professions of medicine, dentistry and pharmacy are today giving the American people the best all-around medical service that any nation has ever had in the history of the world.

Some Medical Victories

I remember the day in the country in Wisconsin when diphtheria wiped out nearly every child under 15 in the adjoining township. There were twenty-two deaths from diphtheria inside of four weeks. That was before the time of antitoxin and before the time of private funerals in contagious disease. Today, diphtheria has a mortality of less than 2 percent and need not have a mortality of more than ½ percent if the people would go to properly qualified physicians in time. Have the cults had anything to do with the reduction of the diphtheria mortality? Could their followers successfully treat diphtheria—any of them?

Cholera, one of the worst ravages of humanity, has been practically banished from the civilized world. By whom but the medical profession?

Typhoid fever, as recently as 1891, claimed by death 1,997 individuals in Chicago, with a population of about 1,000,000. In 1922, with a population of nearly 3,000,000, it claimed only thirty-one, and these were practically all imported cases. Who brought about this change in the death rate from typhoid? Chiropractors, osteopaths, or any of the other cultists? The organized regular medical profession of the city of Chicago was the first to insist upon a pure water supply and, thereby, literally robbed itself of millions of dollars of income from treating patients afflicted with this disease. Can you point to any other group of men in the city of Chicago who have done that much for their city? Find them for me if you will.

Malaria, which made the southern part of our state almost uninhabitable for many years and drove many of its best citizens into the hilly, well-drained parts of Wisconsin, is almost unknown today.

Yellow fever has been almost wiped out of the western hemisphere by such men as Drs. Gorgas and Reed.

Tuberculosis is rapidly on the decrease. Tuberculous joints and tuberculous glands have greatly decreased in the Mississippi Valley in recent years. Twenty years ago, there was scarcely a week but that I operated on at least three cases of tuberculous joints or tuberculous glands in my clinic. Today I do not operate on two a month. Why? Because the medical profession of this section of the country has insisted upon tuberculin-tested cows and pasteurized milk. I am credibly informed that, in England, where the medical profession is crushed to the ground by all forms of restrictions which interfere with their initiative and enthusiasm, tuberculosis of the joints and glands is actually on the increase.

Show the Lawmakers

I hope that you have some legislator friends, and I hope that, during the week-ends, you will make it a point to call on them, and I hope that you will tell them some of these things. I hope, among other things, that you will tell them that, in 1850, or seventy-three years ago, the life expectancy in the registration area of the United States was 35.3 years. Every child born in that area had a life expectancy or prospect of living 35.3 years. Today, that life expectancy is over 50 years. Was that brought about by uplifters who want to reform everybody but themselves? No, ladies and gentlemen. It was done by the hard work of the medical profession, with the cooperation and assistance of the red-blooded, sound-sensed men and women of this country.

That is not all.

It is not only a question of length of life. The general health of the American people has increased to even a greater extent. Thirty years ago, every second or third woman in the community was more or less of an invalid on or before the age of forty. Practically all of them had been confined by midwives. Many of them suffered from procidentia, or at least from unrepaired lacerations. Today, because of better midwifery, fewer lacerations and infections occur and, because of gynecological surgery, most of the lacerations which do occur are repaired and, as a result, this sort of invalidism is virtually wiped out. The medical profession has literally, actually pushed back the infirmities of old age, so that people not only live fifteen years longer on the average, but they live healthier and happier.

Optimism is, to see things brighter than they are. Pessimism is, to see things darker than they actually are. The sane, sensible thing to do is, to evaluate things just as they are and to act accordingly. As stated before, I believe that the organized regular medical profession of Illinois is up against the hardest proposition it has had to face in its existence, and I also believe that it never has had such a wonderful opportunity as it has today to clear the decks and to win the battle. The very multiplicity of cults and quacks is their point of greatest weakness. Their very exaggerated claims constitute their Achilles tendon and their point of vulnerability. All that is necessary is, to keep on the job, to keep alive the ideals and faith of our Fathers, and we shall win the fight against the present-day cults, just as our Fathers won their fight against Homeopathy and its Kindred Delusions.

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The Use of Insulin in Diabetes

By J. B. GARLICK, Schenectady, New York

IT HAS been estimated by Joslin that there are half a million diabetics in the United States, and that the mortality rate has been gradually increasing; at least, the number of recorded deaths has increased from 2.8 in 1880 to 5.5 in 1890 and 9.3 in 1900 per hundred thousand population.

If these statistics are reasonably correct, there are about 500 cases of diabetes mellitus in this vicinity, a sufficient number to concern ourselves about and to cause us to use every means at our command to improve the situation. There is no doubt that the diabetes frequency is slightly increasing, due to the higher levels of nutrition demanded by better standards of living. From the statistics, one gains the impression that the incidence of the malady is rapidly increasing. But, this is probably due to better diagnostic methods and to the extending of life to an age where diabetes is more prone to occur.

The Pancreas Deficiency of Function

It is readily seen that diabetes is a common disease. With the newer discoveries in metabolism and in pathological causation and with improved means of combating the condition, a greater interest in the newer features is going to be demanded by the public. As physicians, we must be thoroughly familiar with these newer developments in order to meet the situation.

The literature during the last two decades has been gradually pointing to the pancreas as the seat of the pathological foundation of diabetes, until now the affection is being definitely attributed to a pancreatitis, except in occasional instances.

The pancreas consist of two definite kinds of tissue, acinar and insular. The acinar tissue is the seat of the products of tryptic digestion; the insular tissue secretes a hormone which enters the circulation and, by some unknown action, metabolizes the carbohydrates.

There are several varieties of pathological processes which involve these cells: True inflammation with formation of fibrous tissue, hyaline and fatty degeneration, and, last but not least, a condition of fatigue, or cell exhaustion, which is preliminary to cell degeneration.

There are many factors which produce cell exhaustion; viz., overloading with carbohydrates, nervous conditions producing an improper endocrine balance, metastatic infections from distant foci, principally from the gall bladder, but possibly from teeth, tonsils or infectious foci anywhere. In treating diabetes, it is as essential to consider this question of focal infection as it is in any disease. Incidentally, I can say that, with elimination of all infectious foci, diabetes will very likely decrease to a very large extent.

The real cause of diabetes is then a decreased capacity on the part of the insular gland cells of the pancreas to produce a sufficient amount of hormone to metabolize the carbohydrates.

Some contributing factors may assist in this, such as failure of the physiologic balance between the pituitary, adrenal and thyroid and other endocrine glands.

Many severe cases of diabetes can, when first seen, be greatly improved and, under proper treatment, be made to become mild.

Treatment Is Difficult

Until the last decade, the treatment has been exceedingly poor and practically worthless. To Allen is due the credit of producing the first real results. His starvation theory has been tried out in thousands of cases and has proved a wonderful success. In the proper application of its principles still rest the greatest hope of the diabetic.

However, its application is extremely difficult because it is contrary to one of our primal impulses, satisfaction of hunger, and detracts to a large extent from one of the joys of life. In other words, it is very difficult to secure the cooperation on the part of the patient that is necessary to produce the best results.

Complete self control is a very necessary asset in diabetes to secure success in treatment. Another mighty factor is the most appalling ignorance on the part of the public about the various components of foods and their chemical values. Unless some universal system can be elaborated whereby every ordinarily intelligent person can learn the primary principles of metabolism, we shall be eternally handicapped in securing adequate results in this matter.

There should at least be a school or a public bureau of information directed by the public-health or hospital authorities where these principles can be taught, not only to the af-

flicted themselves but to the wives or cooks who prepare their food.

Concerning Diagnosis

Despite these familiarly known handicaps, the average length of a diabetic's life has been prolonged by from two to six years. Better methods will undoubtedly increase the general average. The medical profession must come to a greater realization of the fact that, the earlier the diagnosis, the greater is the chance of increasing the life-period. Glycosuria should always be considered a symptom of diabetes until it is accurately determined not to be so.

Every person with sugar in the urine should be given 100 Grams of glucose on a fasting stomach and the urine collected for six hours thereafter in separate specimens. If glycosuria is absent, then and only then is diabetes not present. An easy clinical application is, to give the patient a number of ordinary gum drops. The ordinary sized gum drop weighs between nine and ten Grams; ten or eleven of these forming the basis of the glucose-tolerance test.

We must also appreciate that, after the urine is sugar free, the blood sugar must be determined to check up the intake carbohydrate requirements. This is necessary because inherently the kidney may fail to excrete all of the excess of glucose in the blood, or may acquire it from the prolonged presence of sugar in the blood. It is very essential to determine the renal threshold for glycosuria if the treatment is to be productive of good results.

It must be understood that not only is the amount of carbohydrates to be limited, but their proportion to protein and fats must be determined. The calorific amount also must be found, so as to make it possible to prescribe an intake that the deficient pancreatic hormone can prepare for normal assimilation. This is very important when we realize that as much as 58 percent of protein can be metabolized into glucose. Merely to cut down on one element in the food while giving another that can produce the same quantity of glucose under certain conditions, is the essence of folly.

The protein intake has not received the careful consideration that it deserves. The question of fats still is one which has not been thoroughly elucidated. The suitable amount, I have found, in many cases is twice as much fat as carbohydrates. This ratio is, however, subject to the presence of an acidosis. If that is the case, fat must be eliminated as a matter of course.

Starling maintains that there is no conclusive proof that fats are metabolized into glucose. There are, today, two schools, one sharply eliminating fats while the other permits a certain percentage of fat.

Scientific Treatment of Diabetes

There is no disease that can be more scientifically treated than diabetes, but, to be successful, the doctor must brush up on his arithmetic, if he desires results. In every case it is necessary to determine the glucose tolerance, the renal threshold of glycosuria, the blood sugar, caloric intake and the proportional amount and percentage of carbohydrates, proteins and fats; and not a few patients should have also the D. N. Ratio and the respiratory quotient estimated. One estimation of blood sugar is not enough and every doctor should have a quick, reliable apparatus to estimate the blood sugar. The one manufactured by Leitz & Company is quick and simple. This apparatus will become imperative if one is anxious to keep out of trouble when insulin, the discovery of Banting, becomes marketable.

In 1921, Banting, of Toronto, brought out his hormone which promises to become one of the greatest advances in medical progress since the discovery of diphtheria antitoxin by Behring, in the nineties.

Banting was trained as a surgeon, and the idea of the pancreatic hormone was impressed on him while studying the physiology of the pancreas and reading the aphorism that ligature of the pancreatic ducts produces atrophy of the acinar tissue of the pancreas but has no effect on the islands of Langerhans.

Zuelzer and others had tried to isolate the islet hormone, but failed because they were unable to free the tryptic portion from the hormone. This acinar portion is the part which secretes the trypsin.

Amylopsin and steapsin are very irritating and toxic, as is readily understood by surgeons who have noted the deleterious effects in fat necrosis, etc., from acute pancreatitis.

Materials with this substance in it were then absolutely impractical because of the focal necrosis and reaction which prevented absorption after injection.

The pancreatic duct of a dog was ligated and, after a period of ten weeks to allow the acinar tissue to atrophy, the gland was removed; then began the experiments designed to find the best method for dissolving the secretion of the islands of Langerhans. It was found to be soluble in Ringer's solution

(a solution of sodium chloride 0.7%, potassium chloride 0.03% and calcium chloride 0.025%), which is used to keep the mammalian heart beating in physiological experiments.

The hormone is also soluble in acetone and alcohol. It was found necessary at first not only to isolate the hormone of the islands, but to free the solution of protein to prevent the baneful effects of anaphylaxis.

It was found that suspensions of the macerated gland were soluble in alcohol of up to 80%, and that, by increasing the strength of the alcohol up to 95%, insulin was still unaffected but the protein was precipitated.

The first experiments were made upon a totally pancreatectomized dog, which lived for fifty-one days and died only because of lack of insulin to keep it alive.

This in itself was a remarkable feat when one considers that the longest time a totally pancreatectomized dog lives is between ten and eleven days. Later, Banting kept his own pet dog alive seventy days and was obliged to kill the animal because of insufficient supply of insulin. The dog was autopsied to check up any possible failure to remove the entire gland; but microscopic study revealed that there was none remaining.

Technical Difficulties

The use of insulin, prepared by first ligating the pancreatic ducts and waiting ten weeks for the acinar tissue to atrophy, was soon found to be impractical because of the expense involved and the unduly limited amount of the substance obtained in this manner.

The pancreas of fetal calves was next used. This was tried because the islet tissue is formed embryonally before the acinar tissues, and this method was found practical up to the fourth month of intrauterine life.

This gave a supply sufficient to carry on experimental work, but still did not furnish enough to supply the demands of the medical profession. It was necessary then to try and find a less limited source of supply and to eliminate the procedure of ligation of the ducts.

The task was immediately seen to be a complicated one, presenting so many problems that one man could not solve them in a short time. So, the laboratory staff of the University of Toronto were assigned in groups of two under the supervision of the head of the department of physiology, and in this way much has been accomplished.

If chemical substances could be found that would dissolve out the tryptic elements while preserving the insulin, the result would be ideal.

This, indeed, was accomplished through the employment of a very simple solution, namely, a solution of full-strength alcohol carrying 4% hydrochloric acid. This destroys the acinar elements and precipitates the protein. Later, it is reduced to 50% alcohol and 2% hydrochloric acid.

This method will yield the product much more cheaply, give a practically unlimited supply and afford an opportunity for the general public to use it without hardship.

It has been found that all warm-blooded animals produce the hormone and the abbattoirs will undoubtedly be asked to save all pancreas material.

Standardization of Insulin

The drug is standardized by the unit system which, by no means absolute, is the best method yet devised.

The unit is that amount of insulin which will kill a four-kilogram rabbit with hypoglycemia in the course of four hours.

The first strengths of the solutions were one unit in one cubic centimeter. This has been increased until now there are 4 units per Cc. Ampules are manufactured with various-colored labels, the white containing 1 Cc. per unit; green, 2 Cc. per unit; and red 4 Cc. per unit.

Insulin is entirely inert when given by mouth or rectum and is active when given intravenously or subcutaneously. The action reaches the fastigium in from four to six hours and gradually declines during an equal period of time, after which its effects are entirely gone.

This is the period of time involved when given subcutaneously. With intravenous administration, it requires one-half that length of time to reach the height of its action and one-half the length of time to elapse before its effects are spent.

Up to the present time, this has been one of the great drawbacks to the treatment. If its action is to be maintained, insulin will have to be given from one to four times in twenty-four hours. Perhaps the future will reveal some method that will cause a prolonged action with a single dose. Doctor Banting stated that this problem was being considered and that he had already found out that serous membranes absorb it more slowly than is the case after subcutaneous injections.

At this time (November, 1922), it takes the material from one pancreas to make one unit. Possibly, with the use of pancreas from beeves

and such large animals, a greater number of units may be procured from one pancreas.

The Action of Insulin

The action of this hormone is remarkable. When injected into an animal or human, it causes a marked fall in the blood sugar, depending upon the amount used. It is so powerful an agent that it may produce death from hypoglycemia, reducing the blood sugar from 0.15 Grams per 100 Cc. (the normal) to 0.032, a point at which death ensues.

The symptoms of death from hypoglycemia in animals are hypersensitiveness or irritability, hunger, coma and convulsions, and death. These symptoms, up to the point of convulsions, have occurred in humans.

At the first appearance of symptoms, adrenalin should be given subcutaneously. This seems to prevent the rapid action. Then glucose should be fed by mouth or intravenously.

In diabetes, a subcutaneous injection of insulin produces a marked fall in blood sugar which returns to normal when proper dosage is established. The urine quickly becomes glucose-free and acetone and its products become eliminated.

When the substance is given to a diabetic in coma, all of the symptoms promptly abate and a return to more or less normal condition follows. The change from this condition of coma to normal has been characterized by Allen to be almost miraculous.

Accordingly as the D. N. ratio approaches 3.65, the remedy must be employed more frequently. In some cases that I saw in Doctor Allen's Physiatric Institute at Morristown, the patients had to be awakened at midnight in order that life might be maintained during the night. Insulin must not only be used about four times daily in the severe cases, but the number of units must be greatly increased to make good the greater pancreatic fault.

In mild cases, one-half unit once a day has given good results and in others of Doctor Allen's cases he has been obliged to use as much as 45 units in 24 hours; it has been reported to him that the use of 150 units was not enough to establish the blood sugar at normal level.

There are many factors which influence the amount necessary for subcutaneous injection: 1.—The amount of carbohydrate intake. A person with little intake of sugar to metabolize will require less than one who is using a greater quantity.

2.—A mild deficiency of islet hormone necessitates a smaller unit of replacing substance.

3.—A grave deficiency requires a larger amount.

4.—The presence of infection or of any condition of fatigue increases the amount needed.

5.—The lack of physiologic balance between the endocrine glands affects the dosage; too little pituitary and adrenal increasing the amount; and too much causing the opposite.

6.—The condition of life, whether active or sedentary, affects the dosage. A person who burns up carbohydrates by activity requires less than one who is quiet after the ingestion of carbohydrates.

Not every case of diabetes in coma can be relieved. When a case has progressed so far that the acidosis has produced a degeneration of the vital structures, nothing will save the patient from death. On the other hand, any case which has not been so affected, can be relieved very promptly.

In ten cases of coma to the anesthetic stage, six were promptly relieved and four ended in death. One patient died because it was impossible to obtain the extract in sufficient amount. One died of gangrene of the foot, one of pneumonia and one of cardiovascular failure. All died free of acetone and sugar in blood and urine.

Necessary Precautions

The use of the drug should never be attempted without laboratory control, and only that amount must be used as will keep the blood sugar to a normal level and the urine sugar-free.

It should be remembered that insulin is a very powerful agent. Adrenalin and the apparatus necessary for the intravenous use of 5-percent glucose solution should always be at hand if accidents are to be avoided.

Symptoms of an overdose in humans occur when the blood sugar reaches 0.07 to 0.08. There is a sensation of uneasiness, hunger, nervousness, profuse sweating, pallor, weakness, tremulousness; then coma and convulsive seizures. The earliest of these seizures should be combated by the hypodermic injection of 7 to 10 min. of adrenalin solution and feeding of glucose by mouth. The latter symptoms are treated by intravenous injections of 5-percent glucose solution slowly administered.

The hypoglycemia due to puncture of the fourth ventricle and ether narcosis is relieved by insulin.

Clinical Results

The general effect of these injections can best be impressed upon you by reporting a

number of cases I had the good fortune to observe at Doctor Allen's Clinic.

There was a small number of children, from five to eight years old, with diabetes of from one to three years' duration, with acidosis. The children did not look cachectic and on a limited diet appeared well nourished; they were blood and urine-sugar normal without acidosis.

In one girl, aged nine, with a maximum blood sugar of 1,000 and an average of 0.625 and a minimum of 0.466, whose disease was existent for two years and who had been on a starvation diet for three months, who for the last two months had been bedridden and so weak that she could not turn over in bed—the blood sugar dropped to 0.577 after 1/3 unit of insulin; with 2 units, to 0.500; and with 5 ½ units, the blood sugar dropped from 0.518 to 0.230, the acetone to very faint trace.

After the first 1/3 unit, the symptoms miraculously disappeared and Doctor Allen stated that you could see her spring back to the bloom of health.

During the time I saw her, she did not look at all poorly, although she was somewhat undernourished due to the restricted diet enforced.

Doctor Sherrill, Doctor Allen's assistant, showed a case of a boy six years old, whom he had treated one year previously, who became sugar-free after fasting three days. This boy also had an acidosis. He could be maintained sugar-free on a diet of 20 Grams of carbohydrates, 70 Grams of protein, no fats; a total of 900 calories. It was possible, under treatment with insulin, to render him sugar-free and in addition raise his calories to 1450.

A man aged 37, weight previous to onset 145 pounds, before treatment 119 pounds. This individual could not be maintained sugar-free on 900 calories of a diet of 80% protein and 20% carbohydrate. He had a high blood sugar and suffered with acidosis.

With 2 units subcutaneously, twice daily, his blood sugar became normal and the acidosis disappeared. The urine became sugar-free and, within a couple of months, his weight increased to 132 pounds. He has been able to assimilate 1,800 calories of 80% protein and 20% fat. When I saw him, he looked ruddy and well. This is the story of what happens when insulin has been used.

I now have six cases of diabetes under this treatment and the results have been the same in every case as those stated above.

Case 1. A. W. 50. Mild case. Blood sugar, on admission, 0.325. Urine sugar, 2.91. After a 1500-calorie diet (with 35 Grams of carbohydrate, 70 Grams of fat and 150 Grams of protein) with 3 units of iletin, he was sugar-free, both as to blood and urine, in two days. His tolerance was so increased in a month that, with 3 units of iletin, three times daily, I was able to maintain him sugar-free both for blood and urine on a 2000-caloric diet with 75 Grams of carbohydrate.

Case 2. J. W. Blood sugar, on admission, 0.541. Average, 0.428, and 8.25% sugar with acetone and diacetic acid ++++, and on the verge of coma, was rendered blood and urine-normal, with the elimination of acetone and diacetic acid, on a 1000-calorie diet containing 12 Grams carbohydrate. After two weeks of this diet, I have been able to maintain him normal on a 1500-calorie diet (with 35 Grams of carbohydrate and 70 Grams of fat) with 15 units of insulin after meals and at midnight. The change in the physical condition of this man was remarkable. He seemed to change in a few days from the waxy, toxic appearance of acidosis to a fair specimen of health.

Case 3. Mr. W. 52 years old. Diabetes of six years' duration, with chronic ulcers of the perforating type on both feet, of two years' duration. His blood sugar was 0.341 and urinary sugar was 2.99% acetone; diacetic acid was present.

He was ordered a 1500 calorie diet (35 Grams of carbohydrates). In three days, he was blood- and urine-sugar normal and, in five days, his acidosis disappeared; the ulcers began to heal very rapidly. At this time, they are almost healed and he is now able to be maintained on the above diet, with 7 units of insulin three times a day at meals.

All of the other cases are mere repetitions of the foregoing.

This result was obtained with the preparation Iletin, manufactured by Eli Lilly & Co.

The Outlook

When one realizes that diabetes is a deficiency disease dependent on the degeneration of a certain percentage of the Islands of Langerhans and that the function of these cells is, to secrete a substance which will metabolize carbohydrates, it will readily be seen that there is no substance, especially of the hormone type, which, if once injected into the body, will make up for the deficiency of these cells.

The experimental task of the future will be, to find a means of allowing insulin to absorb more slowly. It has, however, a large use in this class of patients.

Its value in cases of coma is extremely

great. For the first time in the history of medicine, there is offered a great chance for the relief of this catastrophe. Heretofore, practically all cases were hopeless, but now, undoubtedly, a great many will be saved and their lives prolonged for a length of time which, I believe, will be astonishing.

The cases that have terminated in death as a result of this disease had all been rendered sugar and acetone-free and have succumbed only to a secondary condition that involved some vital structure necessary to life.

Previous to this discovery, victims of diabetic coma very rarely recovered.

In infections, as boils, carbuncles and in gangrenous states, its use will be invaluable. In diabetic gangrene, it will eliminate the glycemic element from the process and leave only the arteriosclerotic element.

In those cases where the deficiency is such that the patients can not be maintained on calories sufficient for fair nutrition, the injection of insulin will raise the number of calories and increase the well-being of the diabetic.

For those cases that are seen for the first time, insulin will decrease the time of fasting and permit the establishment of a dietary regime suitable to the needs of the case.

In those patients who simply must break diet occasionally, going on a carbohydrate jag, if such a term is proper in these days of the Volstead Law, the use of insulin will allow the excess carbohydrate to be properly metabolized, preventing fatigue of the cells and the harmful effects of hypoglycemia and acidosis.

For the severe case, previously untreated, its use will rapidly clear up the trouble, improve the nutrition, increase the tolerance and perhaps change it to one of mild type.

I believe that insulin definitely settles the problems of pathology and opens up a field of experimentation that will be productive of great advances, not only in diabetes but in all metabolic diseases.

Finally, although Banting has obtained patent rights in the United States, he is not using the discovery for personal gain. He is assigning the production of the remedy to reliable manufacturers, so that insulin will be a standardized, safe and reliable product for the use of the medical profession.

THE common doctor, who has spent thousands of dollars in his education, is beset on all sides by cultists who are for the most uneducated and untrained men. These cultists actually receive more money for their various drugless treatments than the honest, honorable physician who is trying by methods, which we confess are not always exact, but methods which have stood the acid test of time. A christian-science healer receives more for a prayer than a physician receives for an intelligent prescription that cures.—THE MEDICO, *Mar. 1923, p. 3.*

Office Treatment for Common Rectal Ailments

Including Contracted Sphincters, Hemorrhoids, Fissures, Ulcers and Fistulas

By CORA SMITH KING, Washington, D. C.

A COMFORTING treatment for internal hemorrhoids, even in cases where there is erosion and some oozing, is the use of the monopolar (Oudin) high-frequency current in the rectum. The electrode of choice is the non-vacuum, silver-lined glass electrode. Use the largest size you can find. Those made for vaginal use are excellent in the rectum. The patient gets the benefit of ozone, dilatation and the high-frequency current, all at the same time, and she feels very well after it. This treatment should be given three times a week for ten or twelve times, for 10 minutes at a sitting, or, better yet, using three graded sizes of non-vacuum electrodes for 5 minutes each, making a total of 15 minutes each visit. It is important that the electrode should be silver-lined throughout the 2 to 3 inches that are inserted, and not be merely silver-tipped. The current should be weak or there will be an unpleasant burning sensation at the anus, causing a fulguration effect.

Before inserting the electrode, it should be well lubricated with a soothing ointment, such as calendula in lanolin made by the homeopathic pharmacies. The finger should be inserted in the rectum to anoint the affected membrane thoroughly in advance. After the treatment is over, the finger should again apply the ointment to the hemorrhoidal inch.

The Hypodermic Method

The rectum should be clear of feces when this treatment is given. If necessary, a small enema may be taken in advance.

Excellent results have followed the use of the hypodermic method, without the electric needle. This method is applicable only to hemorrhoids that can be prolapsed so that they can be treated without a speculum. The parts are first cleansed carefully with a 2-percent iodine solution. A solution of 1-percent quinine and urea hydrochlorid is injected deep into the hemorrhoid, around the central vein. This remedy is anesthetic as well as astringent. It has the double effect of leaving the patient without sensation of pain, sometimes for hours after the injection, and at the same time causing the tissues to contract and the hemorrhoid to disappear.

The 1-percent solution can be prepared from Sharp & Dohme's tablets. Parke, Davis & Co., The Abbott Laboratories, and others, make a 1-percent ampoule in 2 Cc. and 5 Cc. sizes. However, one seldom uses 5 Cc. at one sitting unless injecting several hemorrhoids at one time, which is apt to cause discomfort afterward. I usually inject one at a time, slowly putting into it 2 Cc. of fluid and holding the needle in place about 2 minutes after the injection is completed, to prevent leakage of the medicine. A pledget of cotton should be held firmly against the hemorrhoid for another 5 minutes for the same reason.

The Galvanic Needle

The addition of the use of the galvanic needle, at the negative pole, into the hemorrhoid after the preliminary use of the 1-percent Q. and U. injection, has been satisfactory. It makes assurance doubly sure. When I use the galvanic needle, I begin as before with the use of the injection of the 1-percent Q. and U. The positive, or inactive, pad is placed under the buttocks and the negative pole connected to a cambric needle of medium size. The needle is inserted to the bottom of the hemorrhoid and the current turned on to 3 to 12 milliamperes and held for 1 or 2 minutes, or until a frothing shows around the needle. The needle is then withdrawn and inserted again and again until the hemorrhoid is pretty well honey-combed with insertions. As a rule, the galvanic needle is not felt by the patient after the use of the Q. and U. If it is felt, use a quick and safe local anesthetic for minor surgery, such as Parke, Davis & Company's "Codrenin," consisting of 2-percent cocaine hydrochlorid and adrenalin chlorid 1:15000. Dentists use it freely and say that they do not get depressing effects from it, as the adrenalin stimulates the heart sufficiently to balance the depressing action of the cocaine.[1] My patients praise it highly, as it gives them a happy feeling (cocaine) without any local sensation of pain whatever.

[Many surgeons and specialists have given up the employment of cocaine in any form, owing to the numerous disadvantages connected with the repeated administration of this drug.

Instead, procaine has been used to great advantage. Its anesthetic effects are highly satisfactory; at the same time, it is far less toxic than cocaine and is not a habit former. It may be prescribed without the formality of filling in narcotic blanks.

In the most recent past, a still newer local anesthetic of decided merit has been introduced, concerning which the Committee on Local Anesthesia, Section of Ophthalmology, American Medical Association, reported in the *Journal A. M. A.* for February 4, 1922

The negative pole causes a blistering effect; that is, it draws fluid to the tissues and the hemorrhoid is two to four times its original size when the treatment is finished. There is, however, a shrinkage day by day and not much discomfort is experienced. Many operators use the positive pole in the hemorrhoid, the result being an immediate shrinking and hardening of the hemorrhoid. However, the treated area remains hard and painful for many days and patients complain very much more than when the negative pole is used in the hemorrhoid. The pile tumor is destroyed in either case.

As a matter of fact, the galvanic needle can be discarded altogether because the 1-percent Q. and U. solution is sufficient. It may have to be repeated once or twice in the same hemorrhoid if the vein was not completely contracted by the first injection, but the patient does not object to a repetition, as there is such slight discomfort connected with either the injection or with the subsequent condition. Bleeding hemorrhoids respond promptly to this treatment.

The most successful rectal specialists make a practice of giving a preliminary rectal dilatation in every case of hemorrhoids, fistulas, ulcers, fissures, etc. Chronic constipation is sometimes overcome by rectal dilatation. A general practitioner, accustomed to orificial surgery as taught by Dr. E. H. Pratt, of Chicago, will at once recognize the value of dilatation as well as that of minor rectal operations and of operations on the other lower orifices, including operations for freeing the clitoris, or doing complete circumcision (male or female), the amputation of the hymen or of the labia minora, removal of rectal papillæ, curetting of rectal fissures and ulcers, and the slitting and curetting of rectal sinuses and fistulas.

Method of Office Treatment

These operations can be handled easily in the office by the following schedule: The patient is instructed to eat a good breakfast and present herself at the beginning of the morning office hours. She is told that she will have no more food in the next 24 hours, but that she will be allowed all the water and lemonade she desires. She is then given a colon irrigation, combined with the sinusoidal or Morse wave current, one pad over the transverse colon and one under the lumbar spine. In offices not prepared to give this treatment, the patient can be instructed to take an enema just before she comes. This treatment is a precaution against the sick headache likely to follow the next day unless the lower bowel is cleared. It is not desirable to give a physic in advance of this work, as it has been found to lower the blood pressure and make either general or local anesthetic less safe.

When the patient reports an effective return from the enema, she is given hypodermically one tablet of hyoscine-morphine-cactoid, which contains of hyoscine hydrobromate, 1/100 gr.; morphine hydrobromate, ¼ gr.; cactoid, 1/64 gr. She is made comfortable on a couch or on the treatment table. In 45 minutes, she is given another hypodermic of the same strength. In about 20 minutes she will be oblivious to handling beyond a murmur of protest or complaint, of which she usually retains no memory. For six or seven times, at intervals of 5 minutes, she is given a rectal dilatation with the two thumbs or the two forefingers, back to back, acting as a bivalve dilator, gently but firmly overcoming the resistance of the sphincters until they close without spasmodic contraction when the fingers are removed. Each time the fingers are inserted, the dilatation should be done about four times, twice laterally and twice antero-posteriorly, making a total of about twenty-five to forty good stretchings. The patient is now ready for whatever surgical work is necessary. If she is still sensitive to the pinch of an artery forceps or to cutting or curetting, the local anesthetic should be injected under the area to be treated, a small dose being sufficient. More may be injected at any stage of the operation.

The most convenient position of the patient for operation on the rectum is lying on the stomach with the thighs well separated.

It is good practice to say to the patient, "I will pinch you occassionally to see whether you are sensitive. If you are, we will use more of the local anesthetic." On the pretense of testing out the patient, the entire operation is usually performed before the patient suspects it has been begun. On completion of the work, the patient should be catheterized, as the opiate increases the secretion of urine and the patient will be unaccountably restless if left with a full bladder.

(p. 343). Butyn has been shown to be an efficient local anesthetic, especially for operations on mucous membranes and on regions covered by mucous membranes. There are numerous appreciative and laudatory reports on its efficiency in eye, ear, nose and throat work and in genitourinary surgery. In rectal surgery also, several proctologists have found it to be a very efficient local anesthetic and one which (with suitable precautions, of course) is virtually without danger. Most certainly, it is free from the disadvantages of cocaine.

The reader is referred to an editorial article appearing on page 382 of this issue.—Ed.]

Suggestion plays an important part in twilight sleep. The last instruction, however trivial, spoken to the patient will be her cue throughout the séance. For instance, if you say, "Turn on your left side," she will struggle throughout the operation to get back on her left side. The suggestion should be constructive and comforting, as, for instance, "All you have to do is to go to sleep. Whatever we ask you to do, you will be able to do, though you will probably not remember anything about it."

When the work is done, a healing salve, like calendula and lanolin, should be liberally applied inside and outside the rectum and a soft pad of absorbent cotton applied externally as a dressing. The patient is then assisted to a couch and made comfortable, where she usually sleeps from two to four hours, oblivious to the conversation or moving about of others in the office. On waking up to ask for a drink of water (as the hyoscine-morphine mixture usually causes the mouth and throat to feel dry), she is astounded and delighted to learn that her operation is over and that the day is done also, for she has been blest with amnesia as well as with anesthesia.

In case the hymen is to be trimmed or the prepuce amputated, it is well to place thin cotton pledgets, wet with 10-percent cocaine [See note on page 401.—Ed.] solution against the membrane, both on the vaginal and on the external surface of the hymen, and outside as well as inside the prepuce. In rectal work, a pledget should be placed inside the anus between the two sphincters. These pledgets should have a thread of knitting cotton attached, so that they can be easily removed, and they must be changed every 10 to 15 minutes, until the operation is begun. Where 10-% cocaine applications are made, 1/30 grain of strychnine should be given by mouth in advance.

The patient is sent home in an automobile, instructed to stay in bed the following day but to return for dressing the second day and every day thereafter for the remainder of the week.

Patients greatly appreciate being saved the expense and the weary imprisonment of the hospital.

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Electrocoagulation and Some of Its Uses

By T. HOWARD PLANK, Chicago, Illinois

THE use of electricity for constructive and destructive purposes in the treatment of various human ailments is more and more attracting the attention of the medical profession and, through it, the laity.

Of the newer uses of this agent, the high-frequency currents are claiming first attention, and rightly so as they can be used to give definite relief in many diseased conditions.

The two high-frequency currents most used today are the Oudin current for light surface application, and the d'Arsonval current for heavy, deep application. Strange as it may seem, both currents can be used constructively or destructively as desired. Thus, as is true for everything else in life, they can be used for good or ill. Every tide has its ebb and flow. However, we do not wish to leave the impression that the destructive action of the high-frequency currents is all ill; for, if properly used, they are all of benefit and many times give complete relief from the ailment treated. Their destructive uses, of which I am now writing, lie along the line of malignancies or of benign growths which can be reached and from which point there is adequate drainage.

We find Doyen, of Paris, an early user of the high-frequency currents for the destruction of tissue and for the control of hemorrhage. He used a large, flat applicator which required large amperage and considerable time. There are still many followers of this method, but to Dr. W. L. Clark, of Philadelphia, belongs the honor of perfecting a more modern technic. Dr. Clark employs needles instead of the plaques used by Doyen, thus making it possible to work in very small, otherwise inaccessible areas, the current consumption being sufficient to destroy the involved tissue. His work has been mainly oral and integumental.

Utilizing this knowledge as a foundation, we have tried to go a step farther and perfect a technic for all cavities (oral, vaginal, and rectal) as well as for integumental surfaces. We had to develop an entirely new equipment of specula and retractors, using non-conducting materials such as glass, wood, and vulcanized rubber in their manufacture.

Desiccation and Electrocoagulation

Fulguration, a term much used a decade ago, is rapidly being discontinued for the more definite terms desiccation and electro-

coagulation. The former is brought about by the action of the Oudin current, a current of superficial action, the latter by the d'Arsonval current which is of very deep action and intensely destructive.

In desiccating tissues, we simply dry them to the point of carbonization. If further destruction is required, this tissue is removed and the application repeated. If, however, the albuminoid portion of the tissues is to be coagulated, sufficient current is used to turn the tissue white; then discontinue the current. Usually, although not necessarily, one leaves the tissue in situ, to be removed in from ten days to three weeks by natural processes.

The d'Arsonval current, being of low voltage and high amperage, requires but little insulation for perfect control. Wires may lie across each other or come in contact with the patient or the operator, yet no shock need occur. Hence, we find it to be satisfactory for most cases where heavy, deep destruction is required, as in hemorrhages and large cancerous masses.

The Oudin current, on the other hand, is unipolar and impossible to insulate completely. So, the best we can do is, to keep at least four inches away from it. However, for fine, delicate work, it is the current of choice, for it can be controlled with a needlepoint applicator to the merest spark capable of but little destruction and so fine that it may be used upon the conjunctiva without damage to the eye.

The Oudin Current Preferred

In most small, superficial work, such as warts, moles, and keratotic spots, the Oudin current is by far the most satisfactory, for several reasons. In the first place, there is but little scarring, as the destruction is superficial affecting but the upper dermal layer. In the second place, an anesthetic is seldom necessary, as there is but a slight twinge of pain which lasts for a second, and most patients are willing to put up with it. In the third place, there is no danger of infection, as the wound is sealed. For this type of work, a small aluminum needle is the best form of applicator. In using this form of application, the smallest spark possible can be used and the current be under absolute control at all times. With the Oudin current, it is the spark which is used for destruction. In some cases, the area desiccated is not larger than the head of a pin.

The tissue to be destroyed is sparked until thoroughly desiccated or carbonized. This thin layer of destroyed tissue may then be removed with a forceps or curet and procedure repeated until solid, healthy tissue has been reached. When this layer has been reached, a fine spark over the entire area seals it against infection. In most cases, no dressing is required. This type of work is easily performed in the office, and results are immediate, the patient returning in a couple of weeks with his lesion completely healed, with but a small, white, scarcely visible scar at the point where formerly a large wart or mole stood.

In the heavier work in which extensive destruction of tissue is desired or an intensely heavy spark is required to control a hemorrhage, we use the d'Arsonval current. This is a bipolar current and necessitates the use of a large indifferent pad placed upon the back. For the active pole, an aluminum needle is used which is of sufficient length and size for the case under treatment. In oral, rectal, and vaginal work, a needle varying in length from six to fourteen inches is used depending entirely upon the location of the area to be coagulated. Insulation of these needles is sometimes necessary and can be accomplished very easily with a small piece of rubber tubing, although we prefer to use non-conducting specula as retractors.

For Anesthesia

Twilight sleep is the anesthetic not only of choice but (in most cases) of necessity, giving the profound sleep required for continuous work without interruption and without danger. Hyoscine-morphine-cactoid tablets are the ones used in this work and were found necessary because of the inability to use an inhalation anesthetic on account of its liability to explode. We have used these tablets in hundreds of cases without a single bad effect and (with the exception of a few cases where the hyoscine excites the mental faculties) with complete narcosis. The rapid pulse and slow respiration need not cause anxiety as they take care of themselves. Most patients leave the operating table with a pulse of 80 and, although the respirations may be as low as 6, you will find the oxygen requirement adequately met, the skin warm and dry, and there is no indication of shock.

This has the very decided advantage that the patient goes to sleep in his room and awakens after he has returned there, thus obviating all the nervous phenomena attendant on the giving of the usual inhalation anesthetic. These patients will sleep from six to twelve hours, awaken refreshed without pain, nausea, or vomiting, happy to learn that their

ordeal is over, with no knowledge of any operative contact except for the nurse who gave the hypodermic injection, and who welcomes them back to consciousness.

To go into details of the numerous experiments, which have required years of time and much anxiety, is not justified at this time, nor with the space allowed. However, the following is our present technic, which is adequate and reliable: Given an adult in average physical condition, we give a hyoscine-morphine-cactoid table one and one-half hours before the time set for the operation; three-quarters of an hour later, we give a second dose of the same quantity. When ready to operate, if the patient is able to answer questions, ether is administered in the usual way until the patient is sound asleep. Then everything pertaining to its administration is removed from the room and the operation commences. As a rule, the patient will remain perfectly quiet under all operative procedures for well over an hour.

As to age, we have given the hyoscine-morphine-cactoid tablets to patients of from 16 to 82 years of age. In these extreme age periods, however, we use only one full-dose tablet one-half hour before the time set for operation. As the hyoscine lessens the body secretions, this form of anesthesia can be used in cases of asthma with only beneficial results where ether would literally drown them.

Dosage of Current

The amount of current to use depends upon the work to be done, and can be estimated only by experience; for, it is impossible to tell exactly the amount and length of time a current should be applied. For light coagulation within the mouth or rectum, 500 to 1000 milliamperes is sufficient. In heavy vaginal and rectal work, from 2000 to 2500 milliamperes is used, and for heavy superficial work we use from 300 to 1000 milliamperes of the d'Arsonval current. Each area requires from 5 to 30 seconds. In applying the above milliamperage, it is easy to see the necessity of the operator having, at all times, absolute control of the current. For this purpose we use a foot-switch for turning the current on and off. In no other way can we have absolute personal control.

If the malignancy covers a large area, the needle is inserted along the border of the mass and enough current is used for a sufficient length of time to completely coagulate the malignant tissue and to heat the normal or semi-normal tissue for a distance of from one-half to two inches around it to a degree sufficient to kill the malignant cell without destroying the normal. This is readily accomplished because of the fact that malignant cells succumb to heat more readily and at a lower degree of temperature than do normal cells. Cancer cells are destroyed at about 115° F., so, in many cases, a milder current for a longer period of time is used with the object of driving the heat out into the surrounding tissues. This process is repeated in different spots along the circumference and through the entire area, until you feel that you are well into the healthy tissue and that all of the malignancy has been reached. The more thorough the coagulation, the better is your patient's chance of complete recovery. In fact, it is far better for the patient to receive no treatment than to leave the job only half completed.

In some cases, it is necessary to sacrifice important anatomical structures in order to reach all portions of the cancer. To avoid this, we are now using a larger applicator when important structures are reached, so that the heat is decreased to the point where it is not destructive to normal cells, which is about 135° F. This lower heat is continued for a considerable length of time, one-half to one hour, and can be used without an anesthetic.

To avoid manipulation, no effort is made to remove the destroyed tissue, this being left for Nature's forces. Most of the soft tissues will come away in from ten days to three weeks after the operation, and the hard tissues (bone) loosen in from five weeks to three months. This leaves healthy tissue to heal by granulation and contraction.

Nature of Cancer Important

It is understood that the condition we call cancer is but the local manifestation of a constitutional condition, the end result of a long series of chemical and pathological changes. It is not a thing that springs into being at once, but, like every other living thing in Nature, goes through different stages of development to the point where cell degeneration begins. Absorption of toxins now produces cachexia and eventually death of the host.

These things have a bearing on the treatment of cancer, for it is evident that, in the pre-cancerous stage, the return to normal may be effected by removing the cause of an irritation or correcting the diet or plan of living, thereby changing the disturbance in chemical balance back to normal. When we speak of destroying the cancer by high-frequency currents, we mean the local manifestation of the systemic carcinosis.

General carcinosis may be relieved and life comfortably prolonged by appropriate treatment. Coagulation destroys in a few seconds where radium requires weeks to accomplish the same results. Recurrence after a knife operation is common. This usually does not follow because the primary growth had not been entirely removed, but because the cancer cells were implanted in the wound. Cancer tissue should be handled with extreme gentleness to avoid metastasis or transplantation.

In cutting with a knife, the blood and lymph vessels are cut across and left wide open, an ideal condition for metastasis of cancer cells; whereas, in using electrocoagulation, the cancer cells are destroyed and all blood and lymph vessels sealed, thereby removing one of the great avenues of metastasis. Success is obtained by using every measure you have read, seen or heard about which may be of benefit in restoring your patient to health. In all of our cases we follow coagulation with actinic rays to build up the body forces, restore the depleted blood stream and keep down infection. Special diets of fresh vegetables and fresh fruits are used almost exclusively, with but a limited amount of meat or salt. Intravenous medication helps to restore the chemical balance and relieve pain.

Summary

1.—By means of electrocoagulation, tissues can be destroyed and bleeding controlled, at points inaccessible to other measures.

2.—The destruction of tissue and odor is quickly accomplished.

3.—All tissues are thoroughly destroyed and all avenues of infection or metastasis sealed.

4.—There is little or no trauma.

5.—There is no loss of blood and very little shock. All of Nature's forces are, therefore, reserved to fight the uneven battle against malignancy.

6.—There is virtually no pain following this type of operation, as all nerve endings are sealed. The usual history is, that the pain the patient had suffered prior to the operation had completely disappeared immediately thereafter.

7.—Electrocoagulation is humane in the highest sense of the term.

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The Conservative Treatment of Diseased and Enlarged Tonsils

By JOSEPH E. G. WADDINGTON, Detroit, Michigan

THE abuse of a remedy is always to be deplored and the abuse of surgery consisting in the indiscriminate removal of everything removably diseased, so to phrase it, reflects adversely upon a valuable adjunct to the practice of medicine.

Quoting from "Ether Wave": "To hear some people talk, one would think that God was the greatest of failures as a mechanic, and his greatest masterpiece, man, of no practical value until the surgeon had gone over him and removed a goodly portion of his anatomy and pickled and embalmed the balance. What a bungler the Creator must be!"

The removal of organs may, linguistically but not sensibly, be construed as the cure, and one too often forgets that the removal of more or less diseased anatomy is not necessarily the removal of the cause, which quite often persists after, and in spite of, the operation.

Conservation and not destruction, whether applied to economics in general or to the human economy in anatomical particular, is usually a sensible preference.

To remove tonsils solely because they are diseased or enlarged and so easily operated on, does not comport with the usual, common sense, conservative treatment of other parts of the body that are not quite so accessible to surgical destruction; a diseased heart, eye, lung, or any other obviously important portion of the body, is in small danger of being surgically removed and, consequently, is treated and treated to the limit of important conservation.

Because an organ is of a modestly retiring disposition, does not preclude its importance to the owner—as well as the surgeon. The tonsils have, admittedly, the important function of standing sentinel at the portals of respiration and, through their glandular activity, inhibiting infection to the lungs and contiguous tissues.

Surgical as well as medical habits of thought are prone to change, and what is considered as orthodoxly essential to life and health, now, may be as "authoritatively" promulgated as the opposite next year. However, organs and glands (monkey or other)

cannot be satisfactorily replaced after removal, even though a subsequent reversal of scientific opinion as to their value were to occur.

If non-removable organs and tissues can quite satisfactorily be treated without operation, the same remedial logic surely applies to removable ones. "Are they not of the same flesh and blood?"

There surely is such an anatomical possibility as a healthy, normal tonsil. A diseased tonsil is not necessarily an entirely incapacitated one and may be reasonably expected to respond to correct and conservative treatment, thereby being enabled to regain normal functioning power. But, with surgery, the entire tonsil (and, not infrequently, other non-tonsillar but important contiguous tissue) is removed or, at least, the surgeon stresses the importance and good surgery of such thorough eradication. Removal of tonsils does not take care of follicles in the pharyngeal wall, quite often concomitantly diseased, and here is where actinic ray treatment is conservatively but brilliantly indicated.

After tonsillectomy, patients have been known to suffer from more or less serious postoperative conditions, and even deaths have not rarely occurred, both as a direct and indirect result of operation.

Superior Conservative Treatment

As all the healthful results accruing from tonsillectomy, with none of the possible adverse sequelæ, are procurable by the conservative treatment with electrotherapy, there should be no reasonable argument to an unbiased mind against its employment to the exclusion of more dangerous and sacrificial methods.

If the diseased condition has degenerated into pus formation, an incision to evacuate the pus is usually indicated; though, even here, vigorous raying with a water-cooled actinic-ray lamp will often resolve the inflammation and, at least bactericidally, prepare the way for more vigorous subsequent treatment.

Actinic Rays

As with all successful methods, there is no one stereotyped, infallible procedure for the electrical treatment of a diseased or enlarged tonsil. No one technic or method, however good, is applicable to all sorts and conditions of pathology, even though limited to the pharnygeal tonsils. Where the tonsil is acutely or subacutely inflamed, we find a clear-cut indication for the primary employment of the actinic ray, preferably evolved from a quartz mercury lamp of the Burdick type. This has a specially constructed hold, very convenient for handling and localizing upon the exact area to be treated.

In as much as the actinic ray is bactericidal and constructive, differing markedly in this latter particular from the x-rays, which are destructive, both to normal and to diseased tissues, one can easily understand the technic of actinotherapy in tonsillar and allied affections.

The tonsils and adjacent tissues affected should be rayed through a Sharpe localizer, and this be repeated daily or every other day, according to the severity of the case, until the acute inflammatory process has subsided; then a tonsil applicator is placed in direct contact with the tonsil, care being taken not to ray against the pillars, which would cause unnecessary reaction. Treatments will be repeated according to the reactions induced. Twenty seconds is a safe initiatory but by no means a "homeopathic" dose to give with this especially powerful type of lamp. Gradually the dose is increased until minute-long and even longer exposures can be given with a minimum of complaint. Twice-a-week seances are sufficient and, if a severe burn ensue, treatment need not be discontinued but simply reduced in strength.

Invariably warn patients that burns or, more euphemistically, restorative reactions, may and will undoubtedly occur; that they are not dangerous, but, on the contrary, will accelerate the desired results. An oil gargle will relieve the unpleasantness ensuing from too-strenuous raying, which, however, causes but little serious complaint, as a rule, on the part of the patient.

This is the slowest but simplest method of several, and in chronically infected, soft, flabby tonsils, it will be the method of choice, especially for a supersensitive patient. It is also good treatment for all diseased tonsillar conditions preparatory to more heroic measures.

Electrocoagulation

For indurated tonsils, the actinic ray is too slow and superficial in its action; here, we will use electrocoagulation, first injecting the pillars and tonsils with any favorite local anesthetic and swabbing the pharyngeal wall with the same solution in much greater strength. The patient's hands are placed upon a large metal plate supported comfortably on the lap and connected with the lower potential terminal of a true d'Arsonval current. A con-

venient needle or button is connected to the higher potential terminal, and, with the operator's foot placed upon the switch, the current is at all times under instantaneous control. Insertions or contacts are made strictly within tonsillar tissue and the whole available area is treated, though in the case of very large tonsils it is not good technic to endeavor to coagulate the entire organ at one sitting. If the technic be correct and current application strictly confined to the tonsil and to the tonsil alone, there will be but little subsequent complaint of pain; just a little temporary soreness and very little swelling, if any. The tonsil whitens upon application of the current and later convalesces with much the same appearance as after surgical removal. Two or three weeks later, the electrocoagulation may be repeated, if indicated, to further dispose of any tonsil tissue that may have been left untouched by the former application. If, as may easily occur, there be a few ragged, more or less isolated portions of tissue remaining, they can easily be smoothed and disposed of by using the Tesla current, applying a mildly revulsive spark through any convenient probe-pointed applicator. The Tesla spark is an extremely satisfactory method of treating enlarged tonsils and occupies a position midway between the actinic ray and the electrocoagulation methods, being neither so heroic as the latter nor so slowly reductive as the former.

Much has been written concerning the respective merits of direct and indirect methods, but practical experience does not show much, if any, preferential difference. Connecting the patient to the lower potential terminal of the Tesla current, through a hand or other conveniently placed electrode, accentuates the current somewhat and apparently keeps it more within circumscribed bounds, but, skillful technic, with a first-class machine, will give good results, either uni- or bipolar, direct or indirect.

Tonsils are not usually especially sensitive, and they may often be dehydrated without anesthesia or, at most, one or two swabbings with a 5% solution of cocaine in 50% adrenalin, will amply suffice except for the mentally hypersensitive.

Tesla applications will suitably be repeated at five to ten days' intervals, and a half dozen thorough applications should suffice to conservatively reduce any tonsil not within the indication for complete removal by electrocoagulation.

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The Biological Basis of Protein-Substances Employed In Therapy*

By WERNER BUSCH, London and Hamburg

THE rapid progress of bacteriological investigation, toward the end of the last century, drew general attention, particularly to the microorganisms themselves, as well as to the exotoxins which they eliminate and the poisonous substances (endotoxins) contained in the cell-protoplasm. The discoveries in organic chemistry, in the same period, then led to the direct attempts to destroy the causative factor of a disease inside and outside of the human system. In fact, the *"magna therapia sterilisans"* was the ideal that the therapeutist aspired to. However, unfavorable experiences were frequent after the administration of various drugs; which must partly be ascribed to overdosage. Yet, a brighter outlook and more hope were gained with the discovery that the body responds to bacterial invasion by the formation of neutralizing antibodies. Nor did it take long to recognize the fact that this capacity is not limited to the human system, but is rather a fundamental factor inherent in all living organisms. This belief, and the conviction, that a diseased body does overcome a disease because it cannot develop sufficient antitoxins, explain the attempts to produce antibodies artificially. Animals were vaccinated with pathogenic bacteria, left to develop sufficient antitoxic-substances in their bodies, and the serum containing these was then injected into the patient. The therapeutic success attained was explained as being due to a neutralization of the bacterial toxins by the antitoxins.

At the same time, experiments were made to incite sufficient formation of defensive substances in the body itself. By means of irradiation, thermal, chemical and mechanical stimulations, attempts were made to stimulate the body to a stronger defensive action against invading bacteria. It was particularly Bier who led the way with his "stimulation theory,"

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also called, *Reiztheorie*.

Not until very much later, however, was it discovered that the therapeutic effect of antitoxins, formed in the animal body and then injected into the human system, must partly be explained by the stimulation caused by the heterogeneous animal albumins, the proteins. This really forms the basis of modern protein-substance treatment. As the species of the protein used is not essential, the most heterogeneous protein-body mixtures have been administered. The general belief is, that an "activation of the plasm" (Weichardt) takes place, i. e., a stimulation of the activity of the protoplasm of the cell.

The explanation as to how the protein-substances get to the plasm is not afforded. Perhaps the proteins are decomposed in the body and then these decomposition products or similar ones of the body-tissues account for the reaction of the plasm. Most probably, physical chemistry will furnish the satisfactory explanation, as osmotic pressure, electrolysis, etc., certainly play an important part.

All practical experiences, made hitherto, show that the effect of a parenteral administration of proteins is *non-specific* and does not appear to be attuned to one particular cell-species. Every cell which is stimulated by proteins or by their decomposition products can only produce such endocrine substances as it is capable of, according to its organic structure. We cannot assume, therefore, that a cell should respond, e. g., to diphtheria-toxin by the formation of antitoxins. This antitoxin *must* in itself represent some cell-product which had already been previously formed in the system. All cells stimulated by bacteriotoxins respond by increased production and elimination of organic substances that are characteristic (i. e., specific) for them. The question whether a certain choice is made among the body-cells still lacks a satisfactory explanation. It is certainly probable that the bacteriotoxin possesses a chemical or chemical-and-physical relation to certain groups of cell-protoplasm. If this were the case, small doses of the bacteriotoxin would stimulate the cell-protoplasm, as is the case with so many an organic poison, e. g., mercury bichloride and others.

It will be left to future investigators to trace these connections in order to restrict the hitherto unlimited activation of the plasm to certain cell groups.

It is very difficult to explain, also, why pathologic tissues respond so intensely to parenteral administration of proteins. One must imagine that, owing to the increased state of activity of a tissue suffering from chronic inflammation, the demand for nutritives should also be increased. In consequence, the osmotic exchange between serum, lymph and protoplasm would have to be more lively. This increased osmotic pressure, and perhaps, also, an increased permeability of the external plasm layer, will allow the passage of proteins or their decomposition product into the cell-interior, which otherwise would have not got there.

Some Instances of What Is New

in Medicine Since Our College Days

By E. H. PIRKNER, Brooklyn, New York

[*Concluded from May Issue, p. 341.*]

Radium

Since the discovery of radium (1899) and the demonstration of its importance for medicine, by the laborious work, experimental and clinical, of Henri Dominici[10], who established its theory in medical employment not until 1906, a new therapeutic agent is available with extraordinary qualities not known of any previous remedy, which has even now become the remedy of choice in menorrhagia of every type, responding to one application in non-malignant cases. It has been shown by all observers to relieve metrorrhagia after the first application and is reported generally in literature as the most efficient agent in arthritis, prolonging life in malignant tumors at an advanced stage, and superseding operation in carcinoma of the cervix uteri, according to common consent of the clinicians with sufficient experience. Its advocates declare its therapeutic possibilities to be almost infinite.

Together with serology, vaccination, organotherapy, the discriminate use of the alkaloids and a few other time-honored drugs from the realm of botany, I want no more, beside intravenous medication, to render me thoroughly efficient as an internist, always keeping

[10] Barcat, J.: Henri Dominici and his work, *Arch. Radiology and Electrother.* 24: 343, 1919-1920.

in mind to exhaust all the known means of the laboratory to arrive first at a working diagnosis.

The X-Ray

In the same year with other important discoveries (1896), the diagnostic importance of the Röntgen Rays revolutionized the treatment of fractures and it is no geriatric fancy that an extension of life, countable by years, has become actual through modern methods of treating and preserving teeth [mark well: "Treating"! As little gold-capping as possible!] founded on exact x-ray diagnosis and controlled by repeated Röntgen pictures. In the future, one will really have to "dig one's grave with the teeth". Fairly good teeth preserved beyond sixty years of age are no exception and help to keep stomach and all the digestive organs in good condition (providing that modern refined foods are shunned) up to a happy old age.

The Röntgen ray serves as a key to open our understanding to a number of chest and abdominal diseases; it aids the early diagnosis (in combination with Einhorn's tube) of duodenal ulcer and of cancer in different locations. It is the diagnostic mainstay of the head surgeon. Reliable x-ray laboratories under management of expert diagnosticians are accessible to all practising physicians. When the classical writer, Oliver Wendell Holmes, speaks of the stethoscope as the "pocket spyglass with which to look into the patient's chest", we must believe that the instrument which, seventy-five years ago, was crude and limited in its scope, became a sixth sense indeed to a genius like him. Today, however, any medical student can observe with the skiascope the function of the ventricles of the heart.

Electricity, Modern Instruments

Again, electric illumination and much improved instruments, going as far as revealing the function of the kidneys through the ureters, have made genitourinary diagnosis a most fascinating attainment, diathermy therapeutically useful and have rendered even bronchoscopy more attainable now than it was ten years ago. Kinematography has become an instructive aid in every branch of medicine and surgery.

We know now, some of us from personal experience and observations, of the remarkable viability of the cell outside the animal body (the logical consequence of Virchow's teaching), the tolerance of the heart to trauma; to many truly practical practitioners the suggestion of feeding desiccated placenta to women during lactation will seem plausible from the observation that cats and other animals devour their placentas as soon as the third stage of parturition has come to an end.

The following perhaps all too simple fact, also known to the farmer, deserves to be classified in medical literature; namely, that the various vegetables and fruits, as they ripen in rotation throughout the year, appear to be just the correct thing for the moment in our nutriment to satisfy the metabolism of our vegetative existence as from time to time required.

Metchnikoff and the Bulgaric Bacillus

Again, nothing more than observation of lowly mountain dwellers in the Caucasus led to Metchnikoff's famous discovery. His theory (1906) of the effects of lactic acid on bacteria in counteracting intestinal poisons and *prolonging life* is the foundation of our treatment of intestinal toxemia by cultures of bacillus bulgaricus (types A and B) and by bacillus acidophilus. [Incidentally, Metchnikoff succeeded, together with Roux, in their Paris laboratory, in producing syphilis in the higher apes (1904).]

This theory, however, must not be confused with the one formulated by Finkelstein, on infant feeding, and which is now generally accepted. If too high a percentage of sugar (for instance, through overfeeding) is fed to a baby, all the sugar can not be absorbed but passes into the lower part of the intestines to be *fermented* by acid-forming bacteria. In order to reduce their number to normal, Finkelstein prepared his *"Eiweissmilch"*, a mixture low in cow's milk whey (milk sugar) but high in casein; also known as protein milk or albumin milk. Thus, a well-recognized source of intestinal irritation, which causes diarrhea, is removed. This one and Metchnikoff's theory equalize each other.

The results of Abderhalden's dialysis method for the detection of pregnancy depend on evidence of various proteins in the content of the blood serum. The determination of paternity in a given case, on the same principle, by means of a reliable blood test, as it has been tried for forensic purposes, can not be said to have proved successful, according to very recent reports.

Kidney Function Tests

To ascertain the functional capacity and efficiency of the kidneys by certain color tests (phenolsulphonephthaleine), is a diagnostic measure so much simplified that, at present, no physician ought to be without the facilities available from clinical-diagnostic equipment

houses. Anybody can handle it. There are also several more sensitive urinary tests at our disposal. Tests for sugar, indican, urea, microscopic examination of sediments ought never be neglected when needed.

Psychoanalysis

Speaking of modern advances in diagnosis, and merely mentioning increase of our knowledge of topical areas in the brain which govern the different physical functions, we are forced to think of psychoanalysis, if by nothing else than the discussion of the subject in the daily papers and popular books, which gives that ingenious method a conspicuous place in today's international literature. Psychoanalysis must not be looked upon as a hobby to be played with by psychiatrists, but is a really important, weighty discovery, pregnant with practical possibilities, applicable in general practice in the diagnosis of the metabolic changes extant in adolescence and in the involution period of the "dangerous ages." Useful to geriatrics, it calls for the noblest exertion of busy practicians and is invaluable for its therapeutic possibilities.

Because the text is not accessible to every one, I quote from a reviewer in the "Times Sunday Magazine" (New York, Sept., 1921). G. E. Partridge, Ph.D., says:

"Freud alone and singlehanded has discovered fundamental truths of the highest importance and the widest application. The great fact that emerged at once from an understanding of dreams—the existence in the adult mind, as unconscious, of the remote experiences of childhood and the foundation of the character and mentality of the adult upon these experiences in lawful ways, was wholly unknown. Freud showed that everything in the dream-life means something which is perfectly intelligible when once we have the clue, that likewise the delusions of the insane, the wildest fancies, the most trivial error of speech, the smallest lapse of memory, the behavior of the hysteric and other neurotics are all explainable. This was a great discovery. It gives us a new power in psychology equivalent to the application of the microscope to the study of animate physical life."

In order not to omit reference to Jung, let me quote from William A. White, M.D., (Superintendent, Government Hospital for the Insane, Washington, D.C.):

"Psychoanalytic Tendencies." "In the early days of psychoanalysis, Freud advanced and held the theory of sexual trauma in infancy as the cause of the neuroses. This theory has been abandoned by him these many years. In its place, however, Freud holds to the theory of fixation as the principal cause, while Jung emphasizes *the actual conflict*, that is, the *present difficulty* as the cause. The distinction is as between a drag back and a push back, in either case, regression. The place of the theory of infantile trauma may be said—and this is new—to have been taken by the theory of the Incest complex as the *root complex* in all neuroses. This incest complex was pointed out by Jung to be something all have to deal with, and not merely neurotics.[11]

"It represents a stage in psychosexual development. People become neurotics simply because they do not deal with this problem successfully. The incest complex belongs, therefore, in the development scheme. In broad general terms, it represents a continuing dependence, symbolized by dependence on the parents, which has a pleasure and so a sexual motive. The question no longer is, what path is the individual on? The development path is the same for all of us. The question, therefore, becomes, how far has the individual progressed along that path? Herein, in the formulation of the answer to this question, lies one of the greatest contributions to the problems of psychiatry which psychoanalysis has made in the genetic concept of the psyche.—It was Freud who gave it a practical meaning for psychopathology, more particularly by the development of a technic for the unraveling of the past (the unconscious)." [12]

I believed some explanatory details to be essential to an understanding of this very helpful work of modern investigators which is of immediate practical use in anybody's ordinary social relations, how much more, then, in the practice of any physician? It is surprising how little understood it is, even by some would-be specialists.

Progress in Midwifery

In obstetrics, some older methods have been revived, cesarotomy has been placed on more definite indications; pituitrin is finding very useful employment on proper indications and is often preferable to ergot; the frequent use of the stethoscope during the second stage of labor is generally emphasized as a life-saving necessity; relying on our precision of antisepsis, selecting the time of parturition becomes indeed a measure to save babies' lives and preserve the health of mothers. James D. Voorhees (*Amer. Jour. Obstet.*, Jan., 1918), when necessary, anticipates delivery by a week or two ("shakes the apple off the tree") administering castor-oil and quinine or a Champetier de Ribes balloon.

Ritgen's operation, which he did in 1821, is revived, much improved, by the extraperitoneal methods of cesarean section. This operation is most useful in cases of prolonged labor

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[11] It is significant and serves as an illustration in point of the "incest complex" as here explained, that even aged men among the Jews and Italians everywhere, when hurt by the examining doctor or when otherwise in slight pain, always cry out: "mama" with the addition of other interjections.

[12] Page 276 of the proceedings of the American Medico-Psychological Association at their annual meeting, New Orleans, La., 1916.

where infection is more likely to have taken place and, therefore, avoidance of opening the peritoneum is essential. It is just in such cases that the technical difficulties of these operations are diminished. Sanger's classical cesarean section still has a mortality of 1 to 2 percent and would show a higher percentage in those cases in which the best authors employ extraperitoneal technic. It is, therefore, now reserved for cases in which the lower uterine segment is not very accessible as in placenta previa and fibroids, and when pelvic conditions demand a Porro.

The best transperitoneal method, with numerous superior advantages (see the latest works on obstetrics of American and European authors) is Krönig's cervical cesarean section. It utilizes the favorable technical points of the operation which Dührssen invented in 1904, called by him *"Der vaginale Kaiserschnitt"* i. e. vaginal cesarean section. Dührssen says in one of his books that the operation is "not dangerous" and is very easy under the guidance of a dilating Champetier de Ribes.

It was also Dührssen who introduced (1890) into practice the deep incisions of the cervix which took a long time in winning friends, because the conditions are rarely given and then not easily recognized. Better training in obstetrics has overcome the difficulties, and the operation is rendered safe by paying close attention to the author's insistence that the cervix must be completely effaced. Complications bringing danger to mother or child, indicate the operation. According to DeLee, it is "a common operation before the application of forceps in occipitoposterior positions in primiparæ. Placenta previa is a contraindication."

The final explanation for the occurrence of normal labor after a fixed interval remains unknown.[13] An interesting light is thrown on this question by observation of a "spontaneous labor in a case of decentralized uterus" by Dan Collier Elkin, M.D., Boston,[14] who concludes an article:

"1.—In a case of cervical Pott's disease, with an almost complete transverse lesion of the seventh cervical segment, pregnancy went to full term; then, normal and almost painless labor occurred.

2.—Cases of this kind serve to place the uterus among the autonomic organs of the body and indicate that the initial stimulus to labor originates by some other mechanism than cerebral control."

Through our knowledge of endocrines, treatment of female sterility has received a new stimulus with more hopeful results. Excluding gross pathologic conditions, the ovarian deficiency yields to treatment over prolonged periods with pituitary, thyroid and suprarenal extracts. In the diagnosis of the cause of sterility, the Rubin test has become valuable. The patient is put in the lithotomy position, a speculum introduced and the cervix cleaned and painted with iodine. A cannula with a rubber tip is introduced into the cervix until the rubber fits snugly. Then the vagina filled with boric acid solution and a 50 Cc. syringe, filled with carbon dioxide with an attached manometer, is fitted to the cannula. When the gas passes through the tubes, provided they are open, a high pitched bubbling is heard on auscultation over the side corresponding to the tube which opens first. In a preliminary report, the originators of this technic say: "—the Fallopian tubes may be inflated and restored to normal so that pregnancy may result. Here then is hope from a therapeutic standpoint which we have formerly not been able to offer to our patients."[15]

As a sign "of considerable value in certain cases," Dr. Emil Novak, of Baltimore, offers in his report (*Jour. A.M.A.*, March, 4, 1922), bluish discoloration of the umbilicus in the diagnosis of ruptured extra-uterine pregnancy. Dühren's operation must be considered as an improvement in the treatment of eclampsia, saving child and mother; and, where competent assistance is out of reach, intravenous injection of glucose, under strict asepsis, has proven valuable.

Paul Titus, M.D., and M. H. Givens, Ph.D., report in an elaborate article (*Jour. A.M.A.*, Jan. 14, 1922) from the Department of Obstetrics and the Research Laboratories of the Western Pennsylvania Hospital with this summary (in part):

1.—Intravenous injections of glucose for pernicious vomiting of pregnancy gave results sufficiently uniform and successful to warrant applying the same treatment to other toxemias of pregnancy, eclampsia in particular.

4.—Successful results have been obtained in the treatment of vomiting of pregnancy among sixty-eight patients now reported, in addition to the series of seventy-six previously reported.

5.—Immediate clinical improvement in individual patients, as well as a general lowering

[13] Hippocrates explained the onset of labor by hunger of the fetus.

[14] Reported from the surgical service, Peter Bent Brigham Hospital, Boston, *Jour. A.M.A.*, Jan. 7, 1922.

[15] Sterility Studies, from the Clinic of the Woman's Hospital, by Harold Henderson, M.D., and T. G. Amos, M.D., Detroit. *Surg., Gyn. and Obstetr.* 33; 567, Nov., 1921.

of the mortality rate in eclampsia has been noted in this clinic as a result of the intravenous administration of glucose.

6.—Chorea gravidarum, pre-eclamptic toxemia, and the fulminating toxemia with ablatio placentæ have likewise shown favorable results from this treatment.

9.—From 50 to 75 Gm. of chemically pure glucose dissolved in from 250 to 500 Cc. of water may be injected slowly without danger. Doses repeated as required.

Lumbar anesthesia by intraspinal puncture is recommended by some obstetricians, but has, the same as "twilight sleep" which is occasionally revived, found few friends to render labor painless. As the apparatus for administration of nitrous oxide has been much improved, this method of anesthesia is finding more favor.

In general, it may be said that modern asepsis, precise diagnosis and better midwifery have improved our obstetrics and saved lives of babies and mothers. The teaching of this branch at the medical schools is pursued more zealously than in former years, when many a graduate had never seen a confinement, much less practiced obstetrics.

That a new-born infant who, for half an hour, has not given the slightest sign of life, can with perseverance be made to breathe and, the heart's action being aroused, be brought from apparent death to life, is not a book dream indulged in by professors of obstetrics. When you have once succeeded in reviving such a child after efforts of full forty minutes, it is brought home to you, brother obstetrician who is in love with his profession, what Marcy, of Boston, had in mind when he once spoke about the "Majesty of Obstetrics." Indeed, in our days of knowledge, flashed by wireless across oceans and continents, nothing is impossible.

The Principles of the Care of Surgical Patients

By GUSTAVUS M. BLECH, Chicago, Illinois

(*Concluded from May issue, p.* 331.)

Ad 8.—Much that has been said in the preceding section applies here as well. It is a matter of regret that, with many otherwise competent surgeons, the anxiety to have the patients return home, a few days after the performance of what has been heralded as formidable operations, for the purpose of impressing family and friends, leads to the establishment of time periods regulated only by the elasticity of their conscience.

There is no rule or law applicable even to two different individuals who have undergone the identical operation for the same disease or defect. Convalescence cannot be regulated or terminated by the calendar. The phrase: "Discharge the patient home as early as possible" is applicable only on the principle that the best interests of the patient dictate the time of discharge.

While it is true that, formerly, it was believed that weeks had to elapse before there could be any thought of discharging a patient who had undergone, say, a laparotomy, and while there is still no dearth of surgeons who seem to dread the approach of the day when the patient leaves the hospitable roof of the hospital, there are, on the other hand, "regiments of lancers," whose regimental colors have earned the devise: "Laparotomy on Monday—home for dinner next Sunday."

The question that should be uppermost in the mind of the surgeon is, whether the patient has had all the benefit that convalescence in the hospital can yield. If there is the least doubt that even a continuation of the convalescence in the patient's home will yield the necessary agents to insure full mental and physiologic *restitutio ad integrum*, the time for discharge has palpably not arrived.

Economic conditions constitute quite a problem in communities where gratuitous hospital service is not available, but this is something that has only an indirect bearing on the matter under consideration.

There are so many strictly professional factors that must enter into the question of discharge from the hospital, that it is impracticable to even attempt to enumerate them here. Each practitioner is supposed to be sufficiently familiar with pathologic physiology and with each individual patient under his care to be able to reach a decision which will not be grossly erroneous.

Ad 9.—Detailed instructions to patients discharged home as cured, for their future guidance, is something systematically neglected by most surgeons. The social service, maintained in connection with a few prominent hospitals, which aims to follow the patient and to take an interest in his welfare after discharge from the hospital, is an ideal well worth attaining in hospital and private practice throughout our land. Unfortunately, few surgeons bother with

this feature of surgical care. The operative wound or wounds have healed, the patient is doing well, is ordered discharged, and that ends the record and the whole affair.

Of course, where special after-care remains a necessity, the surgeon himself or the attending physician or specialist will continue to give aid and advice; but, even when a complete cure can be noted on the hospital record, patients should not be allowed to return to their old routine without some practical advice.

The writer knows of at least one surgeon, who cannot be classified as a particularly brilliant one, and who, nevertheless, has an enviable hold on his patients. Even on discharging a patient who had a simple fracture of the forearm, he would give him stereotyped advice and orders, given with slight modifications to all patients discharged cured:

"Retire not later than eleven. Arise at seven. Smoke only one cigar after each meal. Take an ounce of mineral oil before retiring. Send me an afternoon specimen of your urine every three months."

We venture to assert that few of his patients, if any, become Christian Scientists or hypochondriacs.

Ad 10.—In all cases in which there is the least doubt about a perfect and lasting recovery, one or more checks, repeated at more or less regular intervals after discharge from the hospital, should be made as a matter of routine until the record can be closed with finality.

In all instances of malignancy, regular examinations will apprise us of recurrence at the earliest possible moment and enable us to render effective aid, which would not be possible were the observation left to the patients themselves.

Similarly, surgeons should insist on an opportunity to watch over the progress of such surgical recoveries of operations undertaken for the restoration or improvement of functional disturbances, whose range can and should be increased in time. As an illustration, we cite ankylosis, tendon-transplantation for paralysis, neurorrhaphy, extirpation of brain tumors, etc.

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So far, we have discussed only such cases as do not develop serious postoperative complications. Our aim has been, to point out the precautionary measures that reduce these complications to a minimum.

Those of us, who have watched the progress of surgery during the past thirty years, must admit to themselves that, today, operations of magnitude are undertaken with a relative sense of security and safety, the mortality having been decreased to an astonishing degree. Our superior methods enabling us to arrive at technically exact and clinically more practical diagnoses, by which is meant that the disease is not only properly recognized as such, but grasped to the extent of prognostic significance, our exactness of aseptic technics, our better control of shock and hemorrhage and our scientific methods of operative dissection and wound control, enable us to draw the knife with a feeling that recovery should be the rule now and surgical failure the rare exception.

We have avoided the discussion of strictly technical details as not coming within the scope of this little contribution; for, otherwise we should have been compelled to write a respectably-sized monograph.

To comply with the wishes of numerous friends, and with a view of proving of some practical help to our younger colleags, we append a few technical notes, arranged in alphabetical order.

APPENDIX

Technical Notes

Acetonuria.—See Diabetes.

Addison's Disease.—Patients suffering from this, as from all diseases of the adrenals, represent poor surgical risks, and none but life-saving operations should be undertaken, and then only under local anesthesia, if it is at all possible to do so.

Adhesions.—These are occasionally deliberately produced by the surgeon, when fixation of an organ is desired. Adhesions following intra-abdominal operations are usually the result of inflammatory (infectious) processes which destroy or disintegrate the serosa. Sometimes they are the result of "rough" surgery. All postoperative adhesions which cause annoying symptoms must be relieved by surgery, care being taken to leave no denuded areas, as these will only cause the same trouble to reappear. The time to operate is, when it can be assumed that the original affection, for which the first operation has been made, has healed.

Albuminuria.—(See also nephritis.) The presence of albumin in urine, *per se,* has no decided clinical significance. When found on routine examination before facultative operations, these should be postponed until it can be definitively established whether the albuminuria is merely transitory (periodic, cyclic)

or due to organic disease of the kidneys. If the former be the case, no serious objection to surgical intervention exists. Ether anesthesia should, nevertheless, be reduced to a minimum.

Anemia.—Anemic patients are poor surgical risks. In all but operations of a vital character, the proper preparatory measures will consist of the utilization of the entire medical armamentarium known to prove of value in increasing the number of the erythrocytes and the percentage of hemoglobin. Transfusion of suitable human blood, doubtless, ranks first among the methods to obtain the desired results. The author has been fortunate in several cases in improving the anemia by the intravenous injections of neoarsphenamine or corresponding preparations, to which is added the administration of bone-marrow, and suitable dietetic and hygienic measures.

Anuria.—Being the result of pathologic changes of kidney tissue or of mechanic obstruction of the ureters, the treatment naturally depends on the causative factor or factors. As a general proposition, when the purely surgical factors can or have been ruled out, the condition ought to be overcome by internal measures producing diaphoresis and diuresis. But no patient should be permitted to die of uremic poisoning without exposure of the kidney (one will suffice) and incision of the capsule or at least scarifying punctures of the kidney.

Postoperative anuria, if due to obstruction of the ureters, these having been accidentally ligated or cut, requires immediate reopening of the wound, search for the ureters and their resuturing (anastomosis) or, if this prove impossible, implantation into the bladder or rectum, as the case may be.

If the technics have been faultless or if the operation precludes the possibility of obstruction of the ureters, the anuria is in all probability due to a mild nephritis produced by the anesthetic.

The usual medicinal measures (hypodermic injections of pilocarpine, sparteine sulphate, etc., hot packs) suffice to restore the flow of urine in twenty-four to forty-eight hours.

Appendicitis, Acute.—To the surgeon called in to operate for an acute attack of appendicitis, the time element represents a serious problem as regards the relative safety of the operative intervention. The first twenty-four hours after the beginning of the attack affords a far greater margin of safety than the period following. Indeed, one might say that, in the absence of pus-formation, it is good policy to operate only within the first twenty-four hours. If this period has been passed, operation should be delayed until the intensity of the infection has subsided.

Arrhythmia.—(see Heart, Diseases of).

Arteriosclerosis.—Naturally, patients afflicted with a generally recognizable arteriosclerosis make very poor risks. We know of nothing that can materially influence the condition. Operations should be of a very urgent character, indeed, to justify intervention. Here, too, local anesthesia, whenever practicable, is preferable to general anesthesia.

Asthma.—Asthmatics, no matter whether their condition be due to cardiac or renal affections, make very poor surgical risks, because they are very prone to develop pulmonary edema or pneumonia and die rapidly. As this appears to occur more often after general anesthesia, the best that can be done is, to endeavor to do any operation, that must be performed, under local anesthesia even if that method be only partially successful.

Such patients require, of course, suitable preparatory treatment (though in the majority of instances the surgeon will find that the patients have been under professional care for some time) and energetic postoperative care. In addition to the proper medication as indicated (heart stimulants, diuretics, opiates) sitting up of the patient, the inhalation of oxygen at regular intervals and the flooding of the room with fresh air will, in many instances prevent a calamity.

Ascites, Abdominal.—When an abdominal ascites is treated by laparotomy, care should be taken to make a small opening in the peritoneum for the purpose of preventing sudden and voluminous escape of the ascitic fluid; as the abrupt withdrawal of the liquid may be followed by profound shock and death.

It does not matter to what disease the ascites is due, and it also has no bearing whether the laparotomy is undertaken solely for the purpose of evacuating the fluid or as a preliminary step to an intra-abdominal operation, e. g. omentopexy.

Bladder, Urinary.—As a preoperative measure in intravesical operations, irrigations of the bladder with a good synthetic silver salt (10% solution of Argyn) and the administration of salol or hexamethylenamine (grs. 10, in water, three times daily) will prove of incalculable value in the prevention of infection.

The postoperative care requires, in addition, good urinary drainage. This will be attainable by a retention catheter or, better still, through a soft-rubber tube inserted into the bladder through a cystostomy wound.

Bleeders.—See hemophilia.

Brain.—Cases of intracranial operations require the administration of hexamethylenamine, grs. 10, three times daily, both as a pre- and a postoperative measure, to prevent infection.

It is justly assumed that the hexamethylenamine separates within the system, liberating formaldehyde. The latter component reaches the cerebrospinal fluid in which it develops its bactericidal properties.

This fact renders the drug exceedingly valuable also in all operations of the spinal cord.

Bronchitis.—Patients suffering from acute or chronic bronchitis are poor surgical risks because they are very prone to develop postoperative pneumonia which, in the majority of instances, is directly caused by the ether anesthesia.

It is essential to reduce the inflammation of the bronchi before attempting surgical interventions of importance. For this purpose, the usual expectorant and sedative mixtures, which are now in vogue, will not accomplish the desired result rapidly.

Experience has shown that inhalations of medicated vapors have proven very efficacious. The particular antiseptic selected matters little, nor is there any necessity for expensive appliances, since the steam emanating from any household dish placed over a fire will prove satisfactory.

Chlorosis.—Chlorotic girls are notoriously poor surgical risks. They are very prone to shock. Even comparatively simple surgical procedures are quite often the causes of psychoses which are difficult to control.

In view of the fact that chlorosis can be cured comparatively easily or at least temporarily improved through proper hygienic, dietetic and medicinal (iron and arsenic) measures, all facultative operations should be delayed until these measures have proven successful in controlling the disease.

Cholemia.—Operations, especially of the biliary organs, performed while the patients show evidence of cholemia, are risky, because of the danger of hemorrhage which is not easy to control, at least not as easily as under usual conditions.

It is sound practice to administer calcium chloride in 30-grain doses, four times daily, for a few days preceding operation.

The same remedy is strongly urged as a postoperative measure and should be administered per rectum (grs. 60, four times daily, dissolved in water).

Diabetes.—The problem of diabetes mellitus in relation to general surgery is an important one. Operations of a life-saving character and those necessitated through the disease itself (e. g. gangrene) will have to be performed irrespective of the disease. It must be recalled that there is a difference between diabetes of the young which, often enough, resists all treatment and rapidly leads to a fatal termination, and that of the middle-aged or old, which runs a comparatively mild and chronic course.

The mere presence of glycosuria *per se* is meaningless, as it may be only a temporary affair.

The situation, on the other hand, is grave in the presence of acetonuria or diacetic acid and, during this stage, none but life-saving operations should be performed and, even in these, general anesthesia is decidedly contraindicated.

The presence of diabetes calls for energetic efforts to reduce the sugar content of the urine to a minimum. The sovereign remedy still is a rational dietetic régime. How much can be expected from "insulin" is still problematical, to say nothing of the difficulty of obtaining the remedy.

Dr. Maximilian Kern, of Chicago, has used for a number of years pancreatin in 5-grain doses, three times daily, and has obtained astonishing results. He strongly recommends this remedy as a preoperative measure, in addition to a properly balanced antidiabetic diet.

Goiter.—Surgical diseases of the thyroid gland require careful study, and no operation should be undertaken without an estimation of basal metabolism. Under certain well-known conditions, the thyroid is a veritable volcano which one must approach with caution. (Cave exophthalmic goiter!)

We have found great service from radiotherapy, the application of the x-rays doubtlessly inhibiting the thyroid secretion. Of course, rest and medication as preoperative measures must not be neglected.

Morphine, gr. 1/6, and atropine sulph., gr. 1/120, should be injected an hour and one-half hour preceding the induction of general anesthesia.

Operations undertaken for the total extirpation of the thyroid gland (malignant disease) must be followed by the administration of the gland substance or extract to prevent the cachexia strumipriva that would follow otherwise.

Heart Diseases present a relative contraindication to major surgery. Contrary to the

general belief, patients afflicted with organic heart lesions stand operations comparatively well.

It is imperative, however, to lessen the element of risk through rest and the administration of strophanthus, digitalis, etc., for some days preceding operation. Needless to add, none but operations of an urgent character should be performed.

Hemophilia.—Bleeders are exceedingly poor surgical risks on account of uncontrollable hemorrhage, which sooner or later causes death, as many patients bleed again and again after they have left the operating table in a more or less precarious condition.

As there is nothing by which a diagnosis can be made, the disease being inherited on the maternal side, the only way of establishing its presence is through proper interrogation. Such patients usually recall incidents of minor injuries or surgical measures (extraction of teeth) which are followed by prolonged bleeding.

In case of doubt, the blood should be tested for its coagulation period.

Preventive treatment consists of administration of gleatin, both internally and by injection, calcium chloride, grs. 20 every 3 hours. The injection of horse serum has proved effective in two of our cases.

Icterus.—See Cholemia.

Jaundice.—See Cholemia.

Purpura Hemorrhagica.—This is easily diagnosed when fully established. It should be kept in mind whenever patients show ecchymotic spots without recalling injury. Certainly, all subcutaneous blood effusions, whether no larger than pin points or extensive, are strongly suggestive of purpura.

Such patients are poor risks, owing to the danger of hemorrhage and shock. Operations should be avoided when at all possible. Preoperative care consists of hygienic and dietetic measures and in the administration of iron and arsenic.

Scurvy.—This hemorrhagic diathesis is rather rare in this country, but is, nevertheless, encountered among immigrants, sailors of fishing vessels, etc.

In all articular affections characterized by effusions, whose diagnosis is not very clear, scurvy should be had in mind.

It has happened that inexperienced surgeons have aspirated or even incised such joints with dire results, when the administration of lemon juice would have produced complete cures.

Spine, Surgery of.—See Brain.

Thyroidism.—See Goiter.

NOTE.—*We had intended to publish, in this issue, a further instalment of Dr. Bulkley's paper on Cancer of the Breast. Unfortunately, this was not possible, and the next instalment will appear, therefore, in the July issue of the Journal.*

Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

Discussion and Solution of Surgical Problem No. 10

NOTE.—There has been a let-up in discussion which cannot be very pleasing to any one trying to render some service, be it ever so modest, to his fellow men. True, I continue to receive letters and oral assurances of appreciation of the Seminar, but the best nosegay is, and always will be, active cooperation. The response to the tenth problem has been numerically less satisfactory than that in the past. If the Seminar does not attract the majority of the readers, we are willing to make any changes desired that will hold out any hope of proving of practical benefit, or else we can cease it entirely.

I earnestly request all readers to let me have an ordinary postal card expressing their wishes in the matter. Please address this to my personal and private office, at 31 North State Street, Chicago.

Recapitulation of the Problem

A merchant, aged 43, consults you for pains in his right lumbar region and hematuria. The pains are dull and draggy in character. Bloody urine is said to have been passed by the patient for several weeks preceding the consultation. His family physician had ordered a radiograph, but this proved negative. The physician is said to have found some albumin in the urine.

Abdominal examination reveals nothing abnormal. The patient is very corpulent and, accordingly, bimanual palpation of the kidney is very unsatisfactory. You do find, however, right inguinal adenopathy and a slight varicocele, also on the right side. The right leg is slightly edematous. On inquiry, you are told that the patient has not noticed anything wrong with his leg before he had the attack described. He has never had any evidence of venereal disease.

The requirement calls for all diseases which have to be considered in the establishment of a differential diagnosis, the methods of examination, temporary and definite therapy.

Discussion by Dr. I. E. Crack, Hamilton, Ontario.—The picture presented by Surgical Problem No. 10, calls up to my mind three principal conditions, namely, renal calculus, tuberculosis and malignant growth in the kidney.

Bleeding, in calculus, is generally microscopic in character and one would expect definite attacks of renal colic.

In tuberculosis, the bleeding is moderate in amount and there is persistent pus in the urine.

The inguinal adenopathy, varicocele and swelling of the leg point very strongly to a new-growth in the kidney, of a malignant nature. A varicocele developing in an adult should always suggest a renal tumor. Pressure on the iliac veins and vena cava would explain the swelling of the leg.

This patient should have a cystoscopic examination and the ureters catheterized to determine the function of each kidney. The right kidney should be injected and an x-ray picture taken. If this gives sufficient evidence of malignant growth, and if the function of the left kidney justifies it, the right kidney should be removed.

So far as temporary therapy goes, this man should be in bed on a liquid diet for a few days and a very careful examination made in an effort to find any other form, either of tuberculous or malignant disease.

Discussion by Dr. E. C. Junger, Soldier, Iowa.—Dr. Junger, who participates in the discussions of the Seminar for the first time, writes:

Your Surgical Problem No. 10 looks easy, but you are so stingy on history and clinical and laboratory findings that a good guess is about all I can offer.

I would eliminate Hodgkin's disease first, then think of tuberculous epididymitis, vas and inguinal-gland involvement or tuberculous kidney.

The right varicocele and edema of the leg would suggest some pressure on the return circulation either by the inguinal glands or hypernephroma.

The blood in the urine seems to suggest rather the latter.

It would be logical to use the cystoscope and also to catheterize the ureters for separate specimens of urine.

The therapy depends on the findings and will be easy after the establishment of the diagnosis.

It will require surgical intervention to determine the condition of the kidney substance, and then only can a decision be reached, whether a nephrectomy is indicated or whether a nephrotomy will suffice.

Comment and Solution

As was remarked in the introductory note, the responses have not been satisfactory and I have been unable to select a profitable third discussion, this having been our custom in the past.

Lest there be any misunderstanding, I beg to inform the Seminar family that none of the older regular contributors were heard from this time. Colonel Acheson presents, instead of a discussion, a very interesting case, which I publish below.

Dr. Junger begins by charging me with being stingy on data. Now, doctor, you do me a great injustice, for I am the last man on earth to hold back anything from my friends. Let us understand this problem clearly before we delve into clinical comment.

True, I could have given you a lot more data, but I am not contributing textbook stuff. This is a Seminar. I want my friends to think surgically. I do not expect them to be superhumans who take a glance at a patient and, presto! present you with a diagnosis. Frankly and earnestly, men who are that clever are either mortal and then they are charlatans or they are—but, what's the use of talking; my name ain't Doyle.

Now, when I first saw the patient, secured his history and made a preliminary examination, I had no more and no less data than those I gave you. Did I make a diagnosis then? Goodness, no. I am a mortal surgeon, not one of those specters that pierce the clouds and commune with mentalities in the abstract.

But, I did some thinking, then. I had certain possible conditions in mind. I was weighing in my mind the means necessary to obtain the desired information, and that is all I expect of my readers to do. Look again at the requirements and see whether I asked for a definite diagnosis. Such a one, as already alluded to, would be scientifically worthless.

"Let us return to our muttons." Here we have a man coming to us with palpable evidence of hematuria, one-sided inguinal adenopathy, varicocele, and edema of the lower extremity. It strikes one as rather "too much of a good thing" that all these evidences happen to be on the same side in which the patient claims to have lumboabdominal pain. Now, the hematuria alone is significant as one of the first symptoms of tumor of the kidney. Of course, hematuria can be caused by other conditions, and not necessarily of the kidneys; for, ureter and bladder, too, might be the source. But, we have in this case a plain picture of pressure, and the general diagnosis of tumor of the kidney appears so plain, that we rule out at once all other conditions and affections of the kidney and ureter known to medical science.

Now, in compliance with our requirements, we are not to rest contented with this diagnosis, even if we can eliminate all others differentially; for, we have still to determine the character of the tumor.

Now, this is where the serious part comes in. Deep in your heart, when you see a patient like that, you know that your hope that the tumor may be a benign one is one that, in ninety-nine out of a hundred cases, will not be realized, and that you have before you a patient with malignant disease; further, that his fate rests in your hands.

You proceed with the examination. The first thing you will do is, the general physical examination (heart, lungs, abdomen, etc.) and finally to palpate both kidneys. While a tumor is often easily palpable, in this patient (who is fat) it is not. Perhaps this is more suggestive of a carcinoma, which exceedingly rarely has sufficient size to be recognizable as a tumor of the kidney, even in comparatively lean people.

We can make a urinalysis. But, here is where our first visit usually ends.

Arrangements are made for x-ray and renal-function examinations, with a view of determining whether the other kidney can continue to function for two. For, irrespective of the exact character of the growth, nephrectomy is the sole remedy, if it can be done; and it will be omitted only if the other kidney, too, is in trouble.

Therefore, we can dismiss the requirement of temporary therapy as, virtually—none.

I congratulate both Dr. Crack and Dr. Junger, and I trust that both will visit with us again and again, for a long time.

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Instead of a problem, I submit the following case which, in my opinion, is really a very interesting one.

Our readers are earnestly requested to let

us have brief expressions, in any manner they prefer and irrespective whether they agree with the author or not.

SURGICAL EXERCISE

Presented by George Acheson, Kingston, N. B., Canada

The patient is a farmer's wife, 49 years of age, mother of seven children, the youngest being 5 years old. She has suffered for years with external and internal hemorrhoids, which at various times have been inflamed, causing extreme pain and discomfort. For several months past, menstruation has been irregular, sometimes missing a couple of periods; last period, 1st of Feb., missed March period. Labors have all been difficult and instrumental.

The patient having at length decided to have recourse to surgical relief, Ball's operation was performed on March 16th; five large piles were ligatured and cut off, and the base sutured to the adjacent skin by the ligature.

All went well for two weeks, except that, until the third day, there was retention of urine, requiring the use of the catheter. This became unnecessary after the first movement of the bowels. Daily evacuations were secured, and the operation wounds gradually healed.

On the night of the 13th day after the operation, the patient complained of severe pain in the lower part of the back, passing round over the crests of the ilia to the hypogastrium, with a feeling of desire to urinate frequently. I saw her the next afternoon, and found her fairly comfortable, with no rise of temperature or pulse; bladder and urine were normal. Still, there was some pain in the back, when patient attempted to turn or sit up in bed. No examination of the rectum was made at this visit, but she was left some tablets of Benzyl Benzoate, to be taken if the pain became severe. Next morning, she reported by telephone that she had taken the tablets, passed a fairly good night, and was feeling a good deal better.

On the following morning, i. e., the 15th day after the operation, a telephone message came to the effect that she had had another bad night, was feverish, and suffering great pain.

As she lived in the country, 8 miles from my office, with weather conditions very bad and the roads sometimes impassable from snow drifts, I could not see her as often as I should have liked. However, on this afternoon, I made a visit and found her fairly comfortable, but still complaining of intermittent pains in the back and hypogastric region, of a "bearing down" character; urination frequent and scanty; some headache; temperature and pulse normal. Vaginal and rectal examination revealed nothing abnormal, but there was some tenderness on deep pressure over the hypogastrium in the middle line.

My diagnosis was, Nature's attempt at restoration of the catamenia, and my treatment was, Buckley's Uterine Tonic, with a hot vaginal douche that night.

Next morning, April 1st, the report was that she had had a good night and was better.

I sent her some Uterine Sedative and Nervine tablets, and, after taking these for a week, she reported herself as feeling very well, and informed me that the pains had all left her.

"All's well that ends well," but, for a while, I was somewhat scared.

REFORESTATION PROFITABLE

[*Concluded from page 390.*]

ment be made to produce enough to make a dent in the annual bill of $28,000,000 which Illinois pays out in freight on lumber that it imports."

While the best season for tree-planting is past, it may be timely to pronounce a warning with respect to one serious factor in deforestation, namely, the deplorable and expensive forest fires. It is known that many a forest fire has been caused by careless campers, either because they did not take proper precautions in putting out their camp fires or that they threw burning matches and cigarettes into dry leaves on the ground. The vacation season, with its camping trips, is approaching. There are many physicians who enjoy nothing better than to go into the mountains, into the woods, follow the rivers towards their sources and live in the great outdoors. May we not remind them to urge adequate care, impressing upon their companions that prevention of forest fires, which are exceedingly costly, is far better than their extinction.

The forests are one of the important assets of a country. The United States once possessed some of the most beautiful forests, a great part of which has been, we might say, criminally destroyed. What is left should be preserved. In addition to that, a great part should be restored.

The General Practitioner

Talks About Professional and Personal Problems
Conducted by WM. RITTENHOUSE.

Book Reviews

TWICE each year, before vacation time and before the Christmas holidays, I have reviewed a few choice books in this department, and the interest shown in the matter by my readers leads me again to discuss a few good ones for vacation reading for those who like something better than the ordinary novel. There are many busy people whose only guide as to what is worth while among the new books is the list of "best sellers" published from time to time in the papers. But this list is a rather unsatisfactory guide. Occasionally, some excellent books are found in it; the majority are poor stuff. The people who make a "best seller" of such a book as "The Americanization of Edward Bok," or as Doctor Hornaday's "Minds and Manners of Wild Animals," are an entirely different group from those who bought "Main Street," or the "Tarzan" books in such quantities. So, the list is a very disappointing guide to good literature. Many of the best books are never found there at all. A well-known critic remarked that the "best sellers" are only the two extremes—a few of the very best, and a lot of the very trashiest.

Both books just mentioned (Bok's and Hornaday's) have been "best sellers," and the interest in them is perennial. I have had more letters regarding them than any other book. Numbers have written to thank me for having directed their attention to them. Anyone who has not yet read them would do well to do so this summer. They make delightful as well as instructive summer reading.

* * *

"The Enchanted April," by the Author of "Elizabeth and Her German Garden." 313 Pages, with Colored Frontispiece. Doubleday, Page & Co., New York. Price $1.90.

Ever since "Elizabeth" wrote the "German Garden," twenty odd years ago, a host of readers have awaited with eagerness each successive book from her pen; and, of that host, I have been an enthusiastic member. Few writers put so much of their personality into their books, and fewer still possess a personality so well worth knowing. When I read her first book, I said to myself what we sometimes say when we meet a new acquaintance who impresses us favorably, "This is a person worth knowing. I must cultivate her acquaintance." Each successive book has only served to strengthen that impression.

"Elizabeth" possesses a wit so genial and kindly that, while it is occasionally tinged with sarcasm, it leaves no sting. She commands the rare faculty of being able to laugh at her own mistakes and, as to the mistakes of others, she makes us laugh *with* them rather than *at* them.

As an English woman who married a Prussian junker (the Count von Arnim), one can imagine that her domestic position was not one of the easiest in the world. The two viewpoints are too far apart. One has only to read "The Pastor's Wife" to appreciate that to the full. How tactfully she managed to fill her difficult position one can read between the lines of the "German Garden." In that book, her husband is playfully referred to as "The Man of Wrath," and she sends many a shaft of gentle sarcasm at him, so true and yet so kindly that, up to the time of the Great War, their domestic affairs flowed smoothly so far as the world knew.

With the outbreak of the war, the situation became impossible. She fled to England, obtained a divorce, and married a well-known Englishman.

In all her books, a wealth of wit and humor and a shrewd knowledge of human nature, appear on every page. This latest work is fully up to her standard. Readers who must have a thrilling and complicated plot must look elsewhere; but, for a charming story of interesting people and amusing situations, this one would be hard to surpass.

One critic says, "A month out of the lives of four women in an old Italian castle; two unselfish and with a sense of humor, the others

selfish and with no sense of humor, produces a series of situations which only 'Elizabeth' could handle." Another, "She is the satirist who can make graceful use of our foibles that we may laugh over them. Her tales are supremely entertaining and completely captivating. Her satiric touch is sure, and sharpest where it is most amusing."

To those who have known "Elizabeth" through her other books, it is only necessary to announce this one and to say that it is one of her best, if not *the* best. But, that is not easy to determine, because, after reading any one of them, the reader is apt to say to himself, "This is the best of all."

To those who have never read any of her books I would recommend reading this one and then going back and reading "The Pastor's Wife," "The German Garden," "The Caravaners" and "Christopher and Columbus."

* * *

All the Way Round. By Edith Ogden Harrison. 278 Pages with 261 Illustrations. Chicago: A. C. McClurg & Co. Price $3.50.

We are not all so fortunate as to be able to travel when and where we would like to, but nearly everybody feels an interest in travel. When we cannot go ourselves, the next best thing is to read a good book of travel. In all ages of the world, the traveller has been held in high esteem, and his adventures have been eagerly listened to or read, according to circumstances. Before the art of printing was invented, books were not within the reach of the mass of common folk, and the returned traveller or the returning pilgrim was eagerly besought, wherever he went, to relate to circles of admiring listeners the story of strange lands and of the manners and customs of their peoples. Indeed, pilgrims frequently paid their way by relating their adventures to marvelling listeners in every inn where they rested on their journey.

Of the books that have lived, a large proportion have been books of travel and adventure. Many of us can remember the immense circulation of some modern books of travel, for example, I might name at random, Mark Twain's "Innocents Abroad," Dana's "Two Years Before the Mast," Lady Brassey's "Voyage of the Yacht Sunbeam," and many others.

Among modern books of travel, Mrs. Harrison's "All the Way Round" will take high rank. It is an account of a trip around the world by the author and her husband, Carter H. Harrison, several times Mayor of Chicago. Many books have been written on this subject, but there are few that compare in interest with Mrs. Harrison's story. A highly cultured woman, familiar with many languages, well versed in art, and a keen observer, she is eminently fitted to give us a book abounding in interest, and expressed in perfect English of classical simplicity. In fact, one of the charms of the book is the style in which it is written, free from flowery language and attempts at fine writing—a fault that mars the work of too many authors.

Her descriptions of India, China and Japan are most interesting because not hackneyed. The illustrations add much to the value of the story.

The book would be a pleasant companion to carry along on a vacation.

* * *

Putter Perkins. By Kenneth Brown. 126 Pages. 10 Illustrations by Kemble. Boston: Houghton, Mifflin Company. Price $1.50.

This is a really funny golf story. But, let me assure my readers, that one can enjoy it to the full without knowing golf. I have enjoyed it immensely, and yet I do not know the first thing about golf. I did not even know, until I looked in the dictionary, how to pronounce "putter"—whether it rhymed with "butter" or with "six-footer" (it's the former). I know less about the game than did the young lady who said she played golf a little, but she had not learned to speak the language, and she never could remember how to hold her caddy! And, yet, I had a whole series of good laughs in reading this book. Oh, yes, I read it *through,* and wished it were longer.

There is nothing like science—even for golf; and how can science be funny? Well, that's the secret. Putter Perkins applies science to his golf with amazing results. But, really, I must not spoil your pleasure by telling you the story. Get the book. You won't be sorry.

* * *

The Globe Trotter. By H. J. Phillips. 210 Pages. New York: Doubleday, Page & Co. Price $1.50.

More than a generation ago, when Eugene Field conducted a column in one of the Chicago papers, under the heading "Sharps and Flats," he started something (to use a slang expression). That column soon became famous for its wit, wisdom and humor, and today all the large dailies have a "colyum conductor" who is more or less humorous. Perhaps the ablest of them all was the late lamented "B. L. T." (Bert Leston Taylor) of the *Chicago Tribune.* Today, some of the critics assert that the funniest of them all is H. I. Phillips of the New York *Globe.*

"The Globe Trotter" is not, as the name would suggest, a book of travel. It is a collection of some of the best things that have appeared in the "colyum" of the *Globe*. I have read it through and found it really funny—full of good things—just the book to dip into for a bit of diversion and a good laugh when one is tired, or to put in one's grip for a summer vacation.

* * *

English Words and Their Background. By George H. McKnight, Ph.D., Professor of English in the Ohio State University. 449 Pages. New York: D. Appleton & Co. Price $2.50.

Let no one suppose from the title of this book that it is heavy reading—too heavy for vacation time. It is a book adapted to those who want something a little more substantial than a novel, and yet nothing that is dry or heavy. Words really contain a vast amount of history, and there are many readers who realize that a book may be entertaining and instructive at the same time.

There is a history in every one of the words that make up our English language, and the story of some of them is very interesting. Language is a living, growing thing, and Dr. McKnight has presented the subject in such a manner that almost any reader will find it full of interest. The chapters on slang are quite entertaining—even amusing.

The variety of interest revealed in the world of words corresponds to that to be discovered in human nature, for words are the expression of human nature. It exhibits how the sense of beauty, the sense of humor, the material progress of civilization as well as that of knowledge, can all be shown in the story of the development of the words we use.

The book is eminently a readable one, as may be inferred from a few of the chapter headings: The Origin of Standard English; American English; Slang; Dialect; Folk Etymology; Words and Romance; Personal Names; Choice of Words; etc. It is far from dry reading.

* * *

The Antiquity of Disease. By Roy L. Moodie, Associate Professor of Anatomy in the University of Illinois. 148 Pages. 36 Illustrations. University of Chicago Press. Price $1.50.

How long has the human race been subject to the ravages of disease? What evidence on this matter is afforded by geology, and palæontology? What is the significance of the perforated prehistoric skulls found in many parts of the world? The answers to these and similar questions are rendered most interesting by Professor Moodie's researches. His little book will appeal strongly even to the general reader, with its non-technical story of early disease and its excellent illustrations. It is well worth a reading by every doctor as well as by the layman who takes an interest in science.

Best Sellers of the Ages

While I am on the subject of literature I want to call the attention of my readers to the fact that, for more than year, the Chicago *Tribune* has been running a series of 100 articles of much interest to all lovers of good reading. They are entitled "Best Sellers of the Ages," and are from the pen of James O'Donnell Bennett. The articles appear every Saturday, are two columns long, and each one discusses some book that has stood the test of time—some book that is not merely good because it is old, but old because it is good; so good that the world would not let it die.

About two-thirds of the series have been published, but there are some good ones yet to come.

These articles are of great importance to all lovers of good literature. They not only give a review of each book, but copious extracts from it. This gallery of immortals includes writers from 3,000 years ago down to the present day—from Homer to Kipling. Glance at these authors and titles: The Bible, Dickens' "David Copperfield," Macauley's "History of England," Shakespeare, Goethe, Dumas, Thucydides, Bacon's "Essays," Chaucer's "Canterbury Tales," Dana's "Two Years Before the Mast," Omar Khayyam's "Rubaiyat," Plutarch, Thomas à Kempis, Homer's "Odyssey," Autobiography of Benvenuto Cellini, Walton's "The Compleat Angler," Thoreau's "Walden," Goldsmith's "Vicar of Wakefield," Bunyan's "Pilgrim's Progress," Addison's "Spectator," Gibbon's "Decline and Fall of the Roman Empire," Carlyle's "French Revolution."

These will give the reader some idea of the scope of the work. It is to be hoped that these articles will be put in book form at their conclusion. I cannot imagine a better guide for those lovers of good reading who are weary of the deluge of inane fiction that is pouring from the presses at the present time. Every week the papers publish lists of "best sellers," which only now and then contain something of real value—something that will be remembered even for a decade. The great majority are simply more or less dreary vari-

ations of old themes, worked up in some form of sensationalism that will develop an abnormal sale for a time, and then—oblivion. The readers of this sort of stuff—I will not call it literature—are permanently injured by having their taste debased; while the writers of it sell their souls for money. Some of them frankly express (in private) their contempt for the birds that can be caught in such numbers by chaff.

It has been said that people had better read trash than read nothing at all. It may be so; but at times I am much inclined to doubt this statement. At any rate, it is very desirable that the world's best literature should be brought to the attention of all by making it plentiful and cheap. In the publishing world there is an increasing number of firms that make a specialty of bringing out the best books of all ages in editions of good type and binding, and yet at a very moderate price. Among these are *The Riverside Series, Everyman's Library, The Home Library,* and a number of others. The enormous sales of these cheap editions are evidenced by the frequency with which one is met with the answer, "Sold out," on trying to buy some well-known classic. It is gratifying evidence that the taste for sound literature is not dying out among our people. When we are tempted to take a pessimistic view of the perennial flood of trash that flows over the counters of our booksellers, we are reassured when we look at the statistics of the sales of such authors as Dickens, Scott, Longfellow, Washington Irving, Thackeray, and a host of others. The demand is large and growing, all the year round and every year.

Reading, like anything else, can be improved by practice. Some persons read little because they do not know how to read. Great numbers imagine they have no time. A great mistake. We can always find time to do what we really want to do. A good many people spend considerable time on the newspapers and claim to have no time for other reading. Of course, every one should keep informed of what is going on in the world; but this can be done very quickly. Regarding most events, the headlines of the papers give all the information needed. To wade through the long columns of our dailies, and especially of our inane Sunday papers, is time worse than wasted. Most people could easily cut their newspaper reading to the extent of fifteen or twenty minutes a day, thereby giving themselves that much time for sound reading. Twenty minutes a day will enable one to accomplish wonders in history, biography, or other literature, if it is really adhered to *every day.*

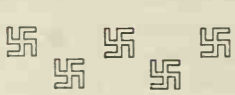
One man says he would like to read on his way to and from work; but, while he can carry a small book in his pocket, he cannot carry a dictionary or an atlas, and, without works of reference, his reading is unsatisfactory. This objection, like all others, can be overcome by the determined reader. Let him use pencil and notebook and then at night look up his difficulties. The mere act of jotting them down helps to fix the facts in the mind. We all waste odd moments that we might use for reading if we had a convenient book at hand. There are editions of good books in pocket form for this very purpose.

The plan of reading a little at a time has some advantages. One remembers better what one reads. With solid reading, especially, one is liable to have mental indigestion if one reads too fast or too long at a time. In carrying out this idea, one can have several books going at the same time. To give, say fifteen minutes a piece to four authors, will do more for the mind than a whole hour devoted to either one. Turning to a fresh subject every little while is a rest to the mind and avoids the satiety that we feel when we read too long on one subject.

It is a mistake to hurry in one's reading. We may be tempted to do it when we see how much good material there is, and how limited our time is. But, in any case, no matter how much time we have, we can never read half the good literature the world has produced. So, it is the part of wisdom to cultivate a calm, unhurried frame of mind in our reading, taking time for reflection, as the object of reading should be not so much to *fill* the mind as to make us think.

2920 Warren Avenue.

NOTE: My correspondents will save time by directing their letters to 2920 Warren Avenue, Chicago.



My Twenty Favorite Drugs—VI

Arsenic

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

MY experience with Arsenic has been, on the whole, much the same as that of other practitioners, so far as I can gather from the literature of the subject. In fairly large doses, it has given me good results in various skin diseases, especially in the eczemas of babies and older children.

Many years ago, I was consulted about a baby six months old, with the worst case of eczema of the scalp and face that I have ever seen. The head and face were completely covered with a bloody crust from under which oozed water and pus. The itching must have been intense, for the little creature rubbed and tore at it continually, and got little rest day or night (and, as a matter of course, neither did the mother). It had been treated unsuccessfully by several doctors, and, when I saw it, I tried to send them to a specialist: for, with my then limited experience in skin diseases, I felt that it was too difficult a case for me. But, they were poor and pleaded that they could not afford a specialist's fees, and insisted that I do what I could. By questioning the mother, I learned that the treatment had been entirely local, by means of ointments and washes, no internal medicine having been used.

I prescribed for internal use:

℞ Fowler's Solution ..... 1 dr.
Distilled Water.....q. s. ad. 1 oz.
M. S. Four drops in a little water, once a day.

Locally, I ordered:

℞ Citrine Ointment .....3 drs.
Simple Ointment .....5 drs.
M. S. Apply twice a day, using a cap and a mask.

Improvement was immediate and, in a month, the child was well.

That one case was the means of bringing me scores of skin cases and of giving me, in a certain quarter of the city, the reputation of being a skin specialist, which I am not. The case shows the value of arsenic internally in eczema and some other skin lesions, and the futility of depending upon local treatment alone.

I have found arsenic valuable in some cases of asthma, in neuralgia, in sciatica, in chorea, and as a tonic.

One of my most interesting cases was as follows:

A man of 70 had an attack of bronchitis with little spots of lobular pneumonia. He soon got over the local trouble, but he was extremely weak, and his appetite was so poor that he could not take enough nourishment to get his strength back. He could not sleep at night and was reduced to skin and bone. It began to look serious. I put him on the cacodylate of sodium which, as my readers know, is a form of arsenic. Three-fourths of a grain was given hypodermically every other day. For his comfort, I found it best to reduce the dose to one-half grain. Too-large doses produce unpleasant effects—constriction of the throat, heat waves, and an uncomfortable feeling of nervousness.

Improvement was immediate. The effect was first noticeable on the appetite. Gradually, he was able to take more and more nourishment and, after three weeks, the appetite was voracious. A curious feature was, that his stomach had been notoriously weak for years, and, whenever he ate a hearty meal he was almost certain to suffer for it. But, now, as the body increased its strength, the stomach did the same, and he was able to eat hearty meals and digest them with comfort—meals of a quality and quantity that, before his illness, would have caused the most severe gastralgia. Flesh and strength returned, and also the ability to sleep. Best of all, that sense of comfort and well-being was reestablished which is a token of good health and to which he had been a stranger for years. As no other remedies were used, there is no question that the credit is due to the arsenic. This is the most brilliant result I have ever seen from the use of that drug, and, as I was the patient, myself, I can vouch for every detail.

It is well to mention also that one should make sure that the preparation of the cacodylate is reasonably fresh. As it is dispensed in sealed glass ampules, it will keep a long time; but, if the solution shows the least sign of a precipitate, the ampules should be exchanged for fresh ones that are perfectly clear. I saw an instance where the use of some containing a slight precipitate was followed by symptoms that were very uncomfortable, though not dangerous.

2920 Warren Ave.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER.

Where Do We Go From Here?

"Male and Female Created He Them"

AND, as the late lamented Dooley remarked (or might have if he didn't), "They, the wan after the other, hav' been creatin' throuble for rhespectable papul iver since."

Distinctly in confidence, I would hazard the opinion that "they will continue to do that precise thing till the Heavens roll up like a scroll and there is no more sea. Then, perhaps, there will be peace—and nothing else much, worth considering.

Having digested this incontrovertible fact, we will proceed to admit that Sex is a very, VERY, VERY important subject and one which should not be discussed lightly or "monkeyed" with without due and proper precautions. If he is wise, the "eminently proper" person, who would say a few sane words on sex subjects, will watch with great care his P's and Q's, wear a pair of blinders and muffle his mentality meticulously. As I, however, have been accused of being both, "unwise" and "most improper," I'll just stumble along expressing a few thoughts as I proceed. The producer of *fiction* may, of course, say anything he pleases —the most "rhespectable papul" will sit up nights to read the last lurid best seller and, next morning, cry feverishly for more—and the scenario writer or producer of pictures long ago discovered that he could do *anything* he chose with the sexes, provided he turned out the lights at the last perilous and palpitant moment. "People," it would seem, had gotten so used to this little formality in their own lives that they couldn't get the real thrill unless it happened also "on the screen." And it is this *putting out the light,* this "use your imagination," void all along Sex lines that—in my opinion, at least—renders a sensible comprehension of human sexuality by the average, or ordinary, person practically impossible.

And, if ever this particular subject needed to be *sensibly* studied by the every-day citizen —if ever the rays of the clean white light of understanding needed to be shed in dark places, that need exists today, even in *my* circle and *yours!* I hope that no one will "shy off" here, believing that I am about to tell all the "very, very shocking and disturbing" facts about Sex, in words of two syllables. I am going to do nothing of the kind. Neither am I going to emulate the Scientific Sexologist and try to advance, with a few basal truths, a whirlwind of weird theories, employing words for my purpose which mean about as much to the ordinary semi- or reasonably well-informed individual, as would the cryptic chiselings of the Copts! *You* and *I,* of course, understand *them* perfectly, but alas! other, less perfectly endowed people, do NOT. Neither, I am sorry to say, do they understand the great majority of the books which really do contain sex information —for those who can find it. Far less do they obtain any great or even a satisfactory working knowledge from the alleged "popular" and distinctly pap-ular publications which purport to tell Ma, Pa, Brother Bill and Sister Sue just what they should know about themselves —and each other. Very elemental, indeed, the information they are vouchsafed here! Anyhow, some of them are funny.

"You, my dear boy," one author starts out, "are a male, and a male is constructed upon *this* plan!" Verbal or pictorial diagram and description (usually more or less faulty) follows here. Did it never, by any chance, strike the inspired author of such a "work" that, probably, by the time he was able to read, this "dear boy" had discovered for himself that he *was* a male and fashioned (more or less) after the usual plans and specifications? And, did it never occur to him that this same young male, if perfectly normal, was quite likely to take more interest in the construction of the female of the species—indeed, unless his horizon had been shamefully limited, possessed already a more or less definite idea of the essential difference between them? And the

SECTION ONE THE DENVER POST—Delivered Anywhere on Earth for 15 Cents a Week—SUNDAY MORNING, MAY 13, 1923 PAGE SEVEN

GLANDS Made Active and Youthful VIGOR Renewed in 24 Hours!

by a Remarkable Medical Discovery — Men 60 to 80 Years Old Tell of Being Made "As Good As New" in a Short Time—Thousands of Obstinate Cases Conquered—Gratifying Benefits Are Often Received

WOULD you like to experience again the thrill of youthful vigor, energy and animation? Would you like to know what it means to have a surplus of vitality—an eagerness for every task—a keen youthful interest in all that makes life really worth living? Then avail yourself of the wonderful secret recently revealed by science. *Awaken your dormant glands and nerves and be "young" again!*

Science is now ready to assure you that it can be done simply and inexpensively. Lost or depleted vigor can be restored—quickly and safely. Glandular activity and nerve force can be increased or renewed, virtually regardless of age. Scientific research has developed an easy method by which youthful physical powers are bestowed upon the weak and the aged with amazing rapidity. No "gland operation" is necessary. No dangerous drugs are employed. No long waiting is required. The treatment can be used secretly by anyone and the results, according to thousands who have tried it, are quicker and more satisfactory in every way than ever have been possible before, regardless of method.

This new combination treatment, known as Korex Compound, has been tested in every state in the Union and has achieved results that seem almost marvelous. It has conquered obstinate cases that had defied all other treatments. It has rescued the young from premature senility. It has made men from 60 to 80 years old "as good as new," according to their own statements. It has brought happiness beyond all price to thousands who believed life held no further joys for them. And if you feel yourself in need of such a restorative, you, too, undoubtedly will pronounce Korex Compound a blessing to mankind.

Korex force and the proper functioning of the glands are responsible for really power and womanly charm—the source of both physical and mental vigor and animation.

Aged Folk Rejuvenated; Young Made Vigorous

Both young and old have declared Korex Compound to be a veritable "Fountain of Youth." The following condensed reports are typical of thousands received, following patient-wide tests at Korex in both mild and stubborn cases. Names of the writers are withheld, as we never publish a customer's name without written permission:

"I can speak a favorable word for you, and will hold up both hands and 'holler' that I have found one firm in a thousand that backs up their word. I am almost 72."—W. N. C., Rockford, Ill. "Having tried your wonderful Korex Compound, I will say there is nothing on the face of God's green earth that has done me so much good. I am 47 years old, and every one around me says I am better now physically, than my 25-year-old boy, and I know it myself."—J. W., Tulsa, Okla. "I am writing to tell you in good faith what Korex has done for me. I am 40 years of age, and today I feel like a boy of 18."—S. A., Carrboro, N. C. "I have tried many treatments, but Korex has done more good than all. I received a package on the 7th and started using it that evening and continued up to this day, the 14th, and I must say I feel like another man. I am 67 years of age, and now I feel almost as good as I did at 25."—L. A. J., Norfolk, Va." "I can truthfully say that my tongue is not able to utter the praise Korex should receive. It is a Godsend. I feel as though I was 25, and yet I am 53."—S. J., Charleston, S. C.

"I am 79 years old and in a very poor state of health when I sent for your Korex Compound," writes a customer in Lacey, Wash. "Now I feel nearly well, and I have used only one box."

Although Korex Compound contains no "dope" or violent drugs, its results are usually surprisingly prompt. Gratifying benefits often are obtained in 24 to 48 hours. Here is what some of our customers say on this point:

"I am more than delighted with your treatment. I had not taken it two days before I found a change. I certainly was getting discouraged. Even the so-called gland treatments did me no good. It's too bad that every man in my condition doesn't know about Korex Compound."—S. F. T., Berlin, N. H. "Your wonderful tablets are really magic. I was surprised beyond expression at the wonderful results I received from them. I can't express my enjoyment. I had given up all hope until I took your treatment."—P. W. C., Cleveland, Ohio.

Discovered By Famous Scientists

Korex Compound is based on a Famous discovery —a substance found by famous scientists and used successfully by eminent physicians in treating both mild and obstinate cases of nerve weakness, loss of vigor, glandular deficiency, premature age, poor circulation, low vitality and lack of animation.

In Korex Compound this wonder-working substance has been combined, in convenient tablet form, with other tonic and invigorating ingredients. The result is a double-strength combination treatment which not only acts directly on the centers of vital force—arousing dormant nerves, glands and circulatory organs to new activity—but tends to build up the entire system. Korex Compound is NOT represented as a "cure all." Our claim is, however, merely that it is of great benefit as a tonic and reconstructor, as in the cases of aged persons and in convery from influenza or other weakening, acute diseases. Users also pronounce it a superior remedy for rheumatism, when taken in small doses and for a considerable time.

Only those with abundant nerve force and active glandular systems can really enjoy the pastimes that make life a glorious experience. Give Korex Compound a chance and see if a few days use of it doesn't make the world look "different."—Ad Insight.

Wonder Working Glands

THE importance of the glands to our physical and mental well being was only recently discovered. Now it is known that these mysterious glands, scattered throughout the body, control the weight, the appearance and many, if not all, of the vital functions.

It is evident that the glands and nerves, like any other part of the body, can be weakened and wasted by disease, excesses, overwork or the approach of old age. When this happens, the entire organism suffers. Signs of deficiencies in this respect are dryness of skin, poor circulation, resulting in cold extremities, tired, faded or falling hair, lines and wrinkles in the face and neck, shrinkage of the genitals, failing of the eyesight and hearing, listlessness, fatigue and an unusual desire for sleep; mental lethargy or shortness, loss of vigor, and a stooping and shrinking of the entire figure.

The results obtained in such cases by arousing the dormant glands and creating new nerve force are often almost startling. New energy comes quickly. The weight usually increases and the appearance improves. The skin takes on a healthier color, the circulation improves, and in many cases there is a marked increase of mental activity.

Much has been said and written about wonderful results obtained by so-called gland surgery or the taking of "gland substance." It is evident, however, that neither plan can produce satisfactory results unless there is a corresponding increase of nervous energy, as it has been proved by scientists that what we call nerve force is life itself. Korex Compound not only contains valuable nutrients, but includes ingredients intended to increase this nervous energy. Thus it forms a combination treatment which users declare is superior to anything else of its kind ever offered. Furthermore, Korex bestows its benefits at a cost so trifling that no one need deny himself the advantages it offers.

Man Past 60 Regains the Vigor of 35.

HERE is what one customer reports. And regarding his experience with Korex Compound. The writer of this letter, a well known and highly respected resident of Louisiana, is more than 60 years of age. And his remarkable voluntary tribute to the power of Korex Compound:

Melton Laboratories, Kansas City, Mo.

Dear Sirs: This is to thank you for the good your medicine has done me. I feel so good from the effect of the Korex tablets I would not take $1,000 and go back where I was before beginning your treatment. The "Pa" had just about finished me, but your medicine has brought me back to as good, healthy physical condition as I enjoyed at 35 years of age. I haven't an ache or pain, am apparently as supple as at 35, and my strength is better than for years. I am today, I read the name, "John W. Thornton," on one of the transports across the Mississippi River. A man with me, only 38 years old, argued I was wrong till the boat came to our side and proved me right. Four months ago it would have been useless for me to try to read that name at such a distance.

Your medicine is all right and I am all right and ready to testify to the same, and your medicine is all it is said to be and more. It builds and will, if taken according to orders, drive away disease and old age and make well and healthy "young" men out of the old. It is much cheaper than doctors and hospital bills and a far better way. Use of the good Korex has done me, and wishing you much success with your medical discovery, I am

Yours very truly, D. W. WOOD.

Are You "ALIVE But Not LIVING?"

Is your daily work a burden? Has life lost its color and charm? Has age come to you too soon with its telltale signs of lines in the face, pallor of the skin, failing or falling hair and a general weary and shrinking of the frame? If so, do not be discouraged. In Korex Compound we offer you new hope. Please do not confuse this great compound with ordinary "patent medicines." It embodies one of the most important medical discoveries of the age and already has to its credit a long list of success, many of them even more remarkable than in the case of Mr. Wood, cited above. If you fail in proof of Korex, do not hesitate to test it. Your full protection is assured and the chances are many to one that you will have the joy you became acquainted with this new marvel of medical ingenuity.

Here Is the Proof

Geneva, O., Jan. 18, 1923.
Melton Laboratories, Kansas City, Mo.
Gentlemen:
Everything is all lovely here. I am entirely my mind you are to blame. The remedy took effect on me in 24 hours.—L. A. E.

Calcary, Alberta, Jan. 17, 1923.
Melton Laboratories.
Dear Sirs:
I have received the Korex Tablets and they are doing me good already. I have only had them about 24 hours.—E. W.

Dundee, Ill., Jan. 23, 1923.
Melton Laboratories.
Dear Sirs:
I received the Korex Compound and have taken it two days and I surely do feel fine. Just like if I came out of a bath, cool and refreshed, not tired any more. Well, I surely am surprised. If ours does work quick I often with a better view of life.—P. L.

Ingle, Fla., Jan. 17, 1923.
Melton Laboratories.
Gentlemen:
I have been only using your medicine four days and have already received more than I'd ask of it then I really expected out of the entire box.—H. F. B.

Kansas City, Mo., Dec. 28, 1922.
Melton Laboratories.
Dear Sirs:
Your letter of recent date received. After the First dose of Korex was taken, I found that your claim was true about the medicine. It is the most wonderful treatment I have ever taken for the purpose.—H. D. A.

Norfolk, Va., March 23, 1923.
Melton Laboratories.
Gentlemen:
I must say that what I read about Korex I have no right to doubt, for I have taken Korex now twelve days, and I am 70 years old, but today I feel the age of 25. I have tried so many things and none had done me good until I took your treatment, and now I realize I am not dead yet.—L. A. J.

Nothing But the Truth

The above letters are not faked "testimonials." They were not solicited. They were not even asked for. Thousands of such letters are received by us every year. We publish a few of them from time to time as a voluntary tribute to the merit of Korex Compound and to the honesty, even and reputation of the Melton Laboratories.

Results Guaranteed

Every letter reprinted here, wholly or in part, is a bona fide, voluntary report made by one of our customers. To the reasonable mind, we believe, these letters are proof that a "Fountain of Youth" has been found. If you are lacking in vigor—if you are old before your time—fill out and mail the coupon below for write us; and we will forward a full, double strength treatment of the genuine Korex Compound to you by REGISTERED MAIL, for a cost of $2 or $3 and postage on delivery, just as you prefer, but if you report at the end of a Trial Korex has failed to produce results, your money will be cheerfully refunded by RETURN MAIL in a big Kansas City bank—more exactly what it says—RESULTS OR YOUR MONEY BACK. And it holds good regardless of what other treatments you have tried without success.

A Word About Free Samples—

Many persons have asked for free samples of Korex Compound. If you will think it over, you will agree that nobody selling a really worth while medicine can afford to give away enough of it to prove its merit. A free sample will often not relieve a single ill, but Therefore, to depend upon a free sample is simply wasting time. Our guarantee makes the Free sample plan unnecessary. If you are in earnest and willing to give Korex a fair trial, you can take it with full assurance that it will cost you nothing if it fails to produce results. With your money protected and your satisfaction guaranteed, is it not much more desirable to order a regular treatment and proceed without delay than to wait for a free sample and then wait again for your treatment? Under our guarantee you make neither time nor money. We will fill your order by return mail and if you do not find Korex Compound to be the best invigorator you ever used,

MAIL THIS COUPON Now and Be Convinced

If you fill out and mail this little coupon with or without the money, as you prefer. The regular $2 treatment of Korex Compound will be sent to you without delay, and if it doesn't prove to be the best invigorator you ever used, your money will be cheerfully refunded. If you do not agree that the treatment of Korex Compound is worth $2 to you, your word will be sufficient and your money will be refunded without question. Mail the coupon today. It may be worth much to you. Address MELTON LABORATORIES, 34 Melton Building, Kansas City, Mo.

GUARANTEE COUPON
MELTON LABORATORIES,
34 Melton Bldg., Kansas City, Mo.
Gentlemen:
Enclosed find my check (or money order) for $2 (or $3, if I desire a double treatment) for which please send me one regular treatment of Korex Compound, with the understanding that if, at the end of a Trial Korex has failed to produce results, you will cheerfully refund my money by RETURN MAIL in a big Kansas City bank. It is understood that my report is to be considered satisfactory unless I write you to the contrary within ten days after receipt of Korex.
(Patents Cannot Be Sent C. O. D. by Postage Companies.)
Name _____
Address _____
(All communications strictly confidential—Melton Laboratories.)

argument applies just as cogently vice-versa. I have been young and, now, am "considerably older," yet saw I never (save once) a boy or girl of twelve who knew not these basal facts. The exception was, I grieve to say, a congenital idiot, and such things interested *him* not at all.

The books for *girls,* written by men, are

even "squashier"—if that be possible. There are one or two such volumes, written by *women,* which show insight and a real desire to impart knowledge of the kind that will clarify instead of befog the vision of the growing girl. That she needs such knowledge —needs it more than anything else in this world—today, this deponent unqualifiedly saith! Further, that this knowledge can be and must be imparted only by a mother (or other near and dear female relative), herself properly informed and able to see things as they really *are,* I also fearlessly asseverate!

The boy—if he is to receive anything approaching a perfect education in sex matters —will also need, as his earliest instructor, his mother; but, a little later, she must, without misgivings, turn him over to his father and what his father *is,* that boy most likely will also become. Unfortunately, of course, this cannot be regarded as axiomatic; for, in Sex matters more than in any other field, does the proverb "evil communications corrupt good manners" apply, and that boy or girl is well educated indeed who can withstand, unblemished,—both spiritually and physically—contact with the unleavened mass which, save in exceptional instances, is bound to occur during the school-period. However, as far as I am concerned, I would rather my progeny, properly armed with knowledge, met their trials thus early than have them too carefully protected at this stage, only to meet realities at an even more critical period of their lives.

The Sex Education of Children, to Be Really Effective, Must Begin in the Cradle, and the parents must ever remember the fundamental fact that "Male and Female Created He Them," and, moreover, deep down in their hearts as well as in their minds, they must realize exactly what that difference means—what the inherent sex instinct *is!* Who is to tell *them?* They certainly will not derive the information they may sorely need from any book (for lay perusal) I have yet read; and though, if reasonably intelligent and self-analytical, they will naturally be able to understand or at least sense many things, for certain most essential knowledge they must turn to the Family Physician—and, if he fails them, their progeny again will go out into the world *unstabilized* sexually. Such Stabilization is most urgently needed today, and, if we do not succeed in restoring some sort of equilibrium, what will happen to the next generation is a problem beyond the possibility of present solution.

"Why," remarks the cynic, "should we *try* to solve it? Let each generation take care of themselves, they usually manage to do it." Yes, but, among growing virile peoples, the preceding generations laid down a pretty firm road for those that came after to travel, and there were, all along the way, certain warning Signs, Precepts and Inhibitions which made for safety. *Our* fathers and we ourselves had such a heritage (most of us had, anyhow), and it strikes me forcibly that we are "slackers" and false to our obligations if we let our children go headlong *down hill* simply because we are too prosperous, too well-fed, too self-satisfied and morally too lazy to put on the brakes!

Moreover, isn't it rather obvious that *we* are somewhat—just the slightest bit—unstabilized, ourselves? Might it not perhaps be desirable to proceed to tighten up our own lines before undertaking to "train our offspring," and to be reasonably sure that we know *how* to train them when we do start?

All this is not mere moralizing because, under the circumstances, that would seem "the proper caper"; neither is it to be regarded as the swan song of a man who, seeing the autumn approaching, rails at May and her enchantments. I can still thrill, have never claimed to be a "moralist" in the strict sense of the word, and have lived just long enough to Know how wonderfully beautiful or how terrible and unbearable Life *may* be—according precisely as to how you live it!

And I venture to advance the opinion that, with the majority of us at least, Life and Love are inseparable. He or she who knows Love, lives; those who merely have "loves", burn themselves out and die without more than glimpsing—even if they do that—the glory of living. They have "grasped the shadow and let the substance go." In order to really Love, one *must* be clean spiritually and physically and, in order to arrive in that condition at the Stage where He or She waits, one must have a rational knowledge of Sex.

Hundreds of thousands of those existing today lacked such knowledge; hundreds of thousands may have possessed it but forgot what they knew, and their wrecked lives should serve as danger signals for those who will see. Certain it is that *their* offspring are apt to be in particular need of protective information; but, just how and where they will receive it, is something I do not know. I have faith, however, that the physician will do his share.

Some idea, at least, of what he has to contend with may be gathered from the accompanying reproduction of a full-page advertisement which recently appeared in a Denver paper, claiming a national circulation. (p. 427.)

One who has practiced Medicine may be forgiven, perhaps, if he draws the conclusion that the various Health Institutes which also use much space in the daily papers and Social Hygiene Bureaus would not be in such a flourishing condition or be able to advance such startling statements as to the prevalence of "Social Diseases," if the Press of the country did not carry such delightful matter as is contained in the "GLANDS MADE ACTIVE AND YOUTHFUL VIGOR RESTORED" advertisement. In the past, we had "Old Dr. Dye" and the reliable "Old Doc Sweeney" (they were *all* "old", dependable, philanthropists), together with a horde of similar bandits, reaching out from the columns of every paper, to grab the money of the unknowing. Their patriarchal whiskers and benevolent phizes, however, occupied usually not more than four inches single-column, and not much more conspicuous were the "Big G" and "Lost Manhood" advertisements. Practically every reputable paper in the country cut these gentry out long ago. But, here, in this year of grace, we have a full page ad. (with illustrations which *suggest* even more than the text dare *state,* inviting Granddad and Great-Grandpop to "pep up", shake a leg, "awaken their dormant glands and be young again." And, if we may place any faith in testimonials, the patriarchs who "took treatment" gamboled all right; one wonders who they "played with?" Then, to point the moral and adorn the tale, we have "Health Institutes, endorsed by prominent business men," telling us in other full-page, bold-faced type advertisements, that there are in our city an unbelievable number of "Social Disease" cases and urging everyone to take advantage of their experience, resources and equipment. Truly, if we are to believe these people, our city morals are in a most dilapidated condition and, if we turn wearedly to the Denver *Post* production, we are compelled to believe that considerable money is being spent to make even our old men worse than they are. One may, it seems, expect at any time now to see some advertisement inviting our revered Grandmas to "Get a Gingerated Gumdrop and Go Out with the Boys! Be Giddy and Gay While You Can; Remember, ONLY the Gingerated Gumdrops Give you the GINGER YOU NEED."

Horrible, isn't it? But is it any worse than the other? Isn't the whole thing an evidence of the fact that we are rather generally Sexually Unstabilized and very, very sorely in need of securing at the earliest possible moment some SEX SENSE?

Your children see these things—read this unspeakably rotten trash; and, if any adult thinks that it doesn't make a most undesirable impression upon them, he lacks understanding. The front page of your favorite paper oozes daily the world's (known) sex irregularities. "Homely Lilla," "Many Marriages," "Gargoyles," "One Hour," and a host of similar sex novels may easily be procured (*are* procured!) by the youngsters of high school and college age. Indeed, the fellow or the girl, who isn't *au fait* with "hot stuff," is considered quite out of the running. "The Pictures" drip suggestion or portray passion twenty times where they give us a glimpse of real, clean LOVE once. All around are cordial invitations to "Snap Into It," "Everyone's Doing It," "Pep Up and Live While You're Alive." And yet, we who have calmly and tolerantly smiled at (or partaken of) it all, throw double cat-fits when one of *our* fledgelings gets trapped. What else COULD one expect? Well, presumably, that soon we will have to be getting ready to take the OLD folks to some Health Institute specializing in the treatment of Social Diseases.

The Gland fad and Social Diseases seem to be getting popularized *pari passu.* We are absolutely *urged* to be sexually active—and, if we are unfortunate enough to contract a very unpleasant (or serious) disorder by so doing, the beneficent Bureaus will put us on our feet again—to "Snap Into It" some more! Of course, through it all, in some miraculous manner, YOUR own little family circle is going to remain unscathed.

Is it? Hadn't YOU better wake up and talk and teach SEX SENSE as you never did before? And, as you do so, remember, "MALE AND FEMALE CREATED HE THEM" and, as surely as the river finds the sea, the one will find the other and mingle. That the union may not be disastrous, teach your Boys and Girls early what LOVE means and implant in their hearts a contempt for "loves" of the mere Thomas-Cat or the "Gland" variety.

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from May Issue, p. 361.*]

Digitalin

Glucoside from Digitalis purpurea.

Physiological effects:—A lethal dose of digitalin paralyzes the heart, arresting it in diastole. Small doses have no appreciable effect on the nerve centers; but, if too long continued, they provoke vertigo, headache, obscurity of vision, dilatation of the pupils, singing in the ears, hallucinations, dullness of the senses and general debility, sometimes convulsions.

Digitalin is not a true diuretic unless insufficient renal action depends upon heart-disease. The unquestioned diuretic property of digitalin in heart dropsies is thus explained: There is often a serous transudation into the tissues, due to the enormous passive venous hyperemia.

Digitalin regulates the abnormal distribution of the blood, removes the hyperemia, and permits the reabsorption of the effused serum. The watery blood and the general increase of vascular pressure, especially in the renal arteries, conduce naturally to the hypersecretion of urine. (Nothnagel).

While it is claimed that digitalis is cumulative in action, this effect can only ensue by the use of the galenical forms of administration and, in the opinion of the writer, does not follow the use of the glucoside.

Digitalin prolongs the diastole of the heart and renders the systole stronger, reducing the number of the pulse strokes to fifty or even forty per minute, which either coincides with or is followed by a lowering of temperature and an increase in the renal secretions. In large doses, inconsistent with active-principle therapy, it causes vomiting, diarrhea and ocular disturbance.

Therapeutics:—Burggraeve says of it: "It is the opium of the heart." It is a heart tonic, the contractibility of which it energizes, modifies and regulates. Useful in cardiac affections of a multiform character, such as dilatation, hypertrophy with dilatation, mitral regurgitation, mitral obstruction, pericarditis, palpitations connected with valvular affections, cardiac asthma, dropsical effusions, etc., etc.

Dosage: 1/64 to 1/12 grain, in acute cases, the smaller dose every 30 minutes as needed. The larger dose may be used when it is necessary to obtain quick action. May be advantageously alternated with cactin.

Duboisine sulphate

Physiological effects:—This salt, as well as the alkaloid, is similar in action to atropine with which it is isomeric. It differs, however, in causing more rapid dilatation of the pupil with total paralysis of accommodation. The mental excitement caused by duboisine is followed by stupor. It is less irritating than atropine and its effect upon the pupil more transient.

Therapeutics:—The use of duboisine is practically confined to ocular therapeutics in the same class of cases and in the same dosage as atropine. However: it has been recommended in exophthalmic goiter to allay circulatory disturbance.

Dosage: 1/500 grain every thirty minutes to effect, then as needed.

Echinacoid

From Echinacea angustifolia.

Echinacoid: A concentration of the crude drug.

The importance of this drug, which is becoming more and more recognized by the medical profession, leads one into a history of its introduction to the notice of medical men. Its medicinal effects were first noticed by an obscure and rather quackish doctor living in Pawnee City, Nebraska, in 1885. This man sent a sample of the root of the plant to Lloyd Bros., of Cincinnati, and, at the same time, another to Prof. King, with a most eulogistic account of its virtues. In 1893, Mr. C. G. Lloyd identified it botanically and it was tested clinically by Prof. John King, of Cincinnati; Prof. Goss, of Atlanta; Dr. Finlay Ellingwood, of Chicago, and others. Through their recommendations, it

became known to physicians of the Eclectic school. The prejudice then existing against this school prevented for a time its general use, but more liberal views, now happily prevailing, make it possible for its full adoption as a valuable addition to our medicinal armamentarium.

While I am using much of the information upon this drug furnished by Prof. J. Uri Lloyd, I cannot do better than to use his own words relative to its use by medical men. He says: "As the use of echinacea increased, reports multiplied from physicians who employed it in their practice; but these, instead of discrediting the original claims of Dr. Meyer, bespoke its favor in so many seemingly dissimilar disorders as to confound one who, like myself, had been so skeptical concerning its therapeutic value, and who had so reluctantly aquiesced in making its pharmaceutical investigation."

Physiological action:—Laboratory tests made under the auspices of the Council on Pharmacy and Chemistry of the American Medical Association, gave no energetic response. Whoever relies on such phases of drug influence, rather than on clinical experience, must needs consider echinacea to be therapeutically inert, and the *Journal of the American Medical Association* has repeatedly asserted that echinacea has no therapeutic value.

Therapeutics:—It controls the disturbed balance of the fluids resulting in such tissue changes as are presented by boils, carbuncles, abscesses, glandular inflammations; serpent or insect venom, cerebrospinal meningitis, puerperal and other septicemias; in fact, it acts as a general internal antiseptic of power and merit.

The writer has used it with success in cases of general infection as shown by a multiplicity of boils, in poisonings from insect bites and in one case of rattlesnake bite. In this last case, a perfect cure was established in less than twenty-four hours from the receipt of the bite.

Echinacoid (Abbott) is furnished in ½ grain tablets.

Dosage:—½ grain every half hour until effect and then as required. In insect and snake bite, the writer used a solution of the tablets, 20 tablets in two tablespoonfulls of water. This was applied to the wound and ½ grain was administered by the mouth until all distressing symptoms were allayed; then three times daily for two days, when the remedy was discontinued.

Elaterin

Glucoside from Momordica elaterium.

Physiological effects:—In large doses, it promotes an abundant flow of saliva, nausea, vomiting, profuse watery stools resembling the rice-water cholera evacuations, great prostration and persistent bitter taste in the mouth.

Therapeutics:—The place of elaterin is in threatened uremia or apoplexy from cerebral hyperemia, when it is essential to remove a portion of the toxic material from the blood to prevent convulsions, or to reduce the vascular tension as rapidly as possible. Also useful in dropsical effusions, constipation and suppression of the catamenia.

Dosage:—1/32 grain: one to three every hour until free watery stools are produced. In threatened apoplexy, 1/6 grain every five minutes, with an alkali, like ammonia, to hasten its action.

Emetine

Alkaloid from Cephaelis ipecacuanha.

Physiological effects:—Produces nausea and vomiting if given in often-repeated doses, promotes expectoration and acts as a counter-stimulant. A precious emetic for children; useful in bronchitis, pneumonia, whooping cough, dysentery, etc., etc.

Therapeutics:—Here it fills the multifarious role of an emetic, expectorant, digestive, antispasmodic, hemostatic, diaphoretic and defervescent. It is practically specific in dysentery and, above all, in amebic dysentery. It is most strongly recommended by dentists in the treatment of pyorrhea alveolaris.

Dosage:—1/64 grain every thirty minutes and repeated as needed.

Ergotoid

An aqueous extract obtained from Sclerotium of the Claviceps Purpurea, replacing the Secale Cornutum.

Physiological effects:—It excites the vasomotor center in the medulla and cardiac inhibitory center, whereby it slows the heart action, contracts the vessels, diminishes the reflexes, lessens the temperature, and decreases the irritability of the peripheral motor and sensory nerves.

In large doses, inconsistent with our rules in the administration of medicaments, it causes cerebral anemia, gastrointestinal inflammation, with vomiting, cramps and bloody mucous stools.

Therapeutics:—Useful against passive hemorrhages, asthenic conditions, chiefly uterine inertia. Also available in adynamia and atonic affections of the respiratory organs. In certain cases of nocturnal incontinence of

urine, and in spermatorrhea, it succeeds when other agents fail. It has a marked, good effect in hysterical mania.

Dosage:—The liquid form of ergotoid is the most active and may be given every 30 minutes as required.

Esculin

Bitter principle from the bark of the Esculus hippocastanum (horse chestnut).

Physiological action: — Relieves capillary stasis and vascular engorgements.

Therapeutics:—It is especially useful in congestions of the abdominal viscera. It is an effective remedy in internal hemorrhoids, proctitis, rectal neuralgia, pruritus ani, etc. Salines should be used in connection with its administration.

Dosage:—1/64 to 1/12 grain every two to four hours.

Euonymoid

A bitter principle from the bark of Euonymus Atropurpureus. (Wahoo).

Physiological effects:—It stimulates the hepatic and peristaltic functions, promoting a flow of bile, and its elimination from the bowels.

Therapeutics:—Useful in torpid liver, duodenal catarrh, extending into the gall ducts; in some cases of intestinal dyspepsia, etc.

Dosage:—1/64 grain to 1/6 grain two or three times daily before meals.

Eupurpuroid

The combined principles from Eupatorium purpureum (Boneset).

Physiological action:—Diuretic, slightly astringent, tonic to the mucosa. Increases output of renal solids through direct action on the kidneys.

Therapeutics:—Useful in renal and vesical irritation, incontinence, painful micturition, uric-acid diathesis and congestion of the urinary organs.

Dosage:—1/6 to 1/2 grain three or four times daily, best administered with hot water.

Formin (see Hexamethylenamine)

Gelseminine Hydrobromide

A salt of the alkaloid from the root of Gelsemium sempervirens (Yellow Jessamine).

Physiological effects:—It slows the heart and respiration, reduces arterial pressure and temperature, lessens the pulse rate, causes ptosis and decreases the reflexes. Applied to the eye, it dilates the pupil, whilst it contracts it when absorbed otherwise, and lessens the supply of blood to the cerebrospinal centers.

Therapeutics:—Useful in trigeminal and intercostal neuralgia, sciatica. Also in spasmodic affections, as asthma, laryngitis, whooping cough and nervous irritable cough; it should be given where the face is red, eyes bright, pupils contracted and the temperature of the head increased, with restlessness and excitation.

In the early stages of pneumonia, pleurisy and puerperal fever it should be given to effect. Valuable in all of the various pains due to spasm.

Children are very susceptible to this drug. Use it cautiously but to effect, that is, until relief is obtained or drooping of the eyelids (ptosis), its full physiological effect, is noticed.

Dosage:—1/250 grain every two to four hours to effect. For children 1/250 grain for each year of child's age in twenty teaspoonsful of water, a teaspoonful every two to four hours.

Glonoin

Nitroglycerine-Angineurosine. An explosive substance resulting from the action of nitric and sulphuric acids upon glycerine.

Physiological effects: Its action is very similar to that of Amyl nitrite and the other nitrites, but more persistent. In small doses, it causes very great acceleration of the pulse and respiration, diminished blood pressure, flushed face and a feeling of tension and throbbing, sometimes actual aching in the head. After large doses, all the above symptoms are present in a greater degree; there is gradual paralysis of reflex and voluntary motions, loss of sensation, and finally death from paralysis of respiration.

Therapeutics:—Useful in angina pectoris, emphysematous asthma, weak heart from fatty degeneration, principally if given at the beginning of the attack. Hepatic colic, neuralgia, gastralgia; the vomiting of seasickness is benefitted by glonoin. It is useful in Bright's disease, both acute and chronic, and in the algic state of intermittent fevers, where it frequently aborts the paroxysm by dilating the blood vessels and favoring circulation.

Dosage:—1/500 to 1/100 grain every half hour, *pro re nata,* in acute cases; 1/500 grain every three hours in chronic cases.

Gossypoid

Combined principles from the bark of the root of Gossypium herbaceum (Cotton root bark).

Physiological action:—Diuretic emmenagog, hemostatic; of stronger action than ergot, although similar, but more oxytocic.

Therapeutics:—Useful in uterine inertia, delayed mentrual flow, dragging in the pelvis, hysteria of pelvic origin, etc.

Dosage:—1/6 grain every hour until effect, then *pro re nata.*

Grindeloid

Combined principles from Grindelia robusta.

Physiological effects:—Produces a sedative effect on all muscles of respiration. Slows and regulates the pulse.

Therapeutics:—It reduces the violence and frequency of the paroxysms of asthma, whooping cough and bronchitis.

Dosage:—1/3 to 1 .grain with hot water every half hour in urgent cases; as a sedative tonic, 1/3 grain four times daily.

Helleborine

An alkaloid from the root of Helleborus Niger. (Black Hellebore).

Physiological effects:—Stimulant to the salivary and mucous glands, producing in the mouth and fauces sensations similar to those of aconitine. If persisted in, it provokes anorexia, nausea, vomiting and diarrhea. The heart's action is lessened and the respiration slowed. The kidneys and the female generative organs are considerably stimulated. After large doses, the pulse and the respirations are, at first, accelerated and, subsequently, retarded. It expends the most of its force on the nervous system, causing irritability of the peripheral nerves, dilatation of the pupils, loss of hearing; finally, almost complete anesthesia, with cerebral and spinal congestion, even to apoplexia.

Therapeutics:—Useful in dropsical effusions depending upon cardiac affections in amenorrhea, in torpid liver and pancreas, in anasarca following scarlet fever, etc.

Dosage:—1/64 gr., one to two granules every two or three hours.

Helenin

A stearoptine from Inula helenium.

Physiological effects:—A mild stimulant of the secretory organs, acting also an as expectorant, diaphoretic and diuretic. In large doses, it causes nausea and vomiting.

Therapeutics:—Useful in apyretic pulmonary affections with profuse secretion, in atonic dyspepsia, and in the period of decline in gonorrhea.

Dosage:—1/64 grain to 1/6 grain every hour during the day.

Hexamethylenamine (Formin)

Physiological effects:—Urinary antiseptic and uratolytic.

Therapeutics:—Indicated in all diseases of the genitourinary organs due to or accompanied by bacterial invasion. Should be given freely when urine exhibits growths of bacillus typhosus, to sterilize the urinary tract. Of service in gout, rheumatism and other disorders due to acidemia.

Dosage:—Two and one half to ten grains, every three hours, with large draught of water always.

Hydrastine Hydrochloride

A salt of one of the alkaloids from the root of Hydrastis Canadensis (Golden Seal).

Physiological effects:—In ordinary medicinal doses, it stimulates the vasomotor system, causes contraction of the arterioles and raises the arterial tension accordingly. It is also an excitomotor stimulant. Its action on the *primæ viæ* is analogous to that of the other bitters, promoting gastrohepatic secretions and digestion; at the same time, the appetite is increased.

Therapeutics:—It is useful in hepatic and duodenal catarrah and in gastric disorders of the same character.

Dosage:—1/64 to 1/12 grain, as required. The smaller dose, repeated to effect, is always to be preferred. Large doses overstimulate.

Hydrastoid

Combined principles of Hydrastis Canadensis (Golden Seal).

Physiological action:—Represents the complete drug effect of the whole plant and may be given in all cases wherever the drug is indicated. It is a dependable remedy in all relaxed conditions of mucous surfaces and especially in the apthous sore mouth of infants.

Dosage:—1/6 grain *pro re nata.* In the sore mouth (aptha) of children, it should be dissolved in warm water and used locally as a topical application.

Hyoscine Hydrobromate

A salt resulting from the chemical combination of hydrobromic acid with hyoscine, the other alkaloid contained in hyoscyamus niger, and obtained from the mother liquor after hyoscyamine has crystallized out.

Physiological effects:—Cerebral sedative and hypnotic, of higher power than hyoscyamine. Indicated in all conditions marked by motor excitation. Most useful in delirium tremens and for the insane. Used largely in the treatment of narcotism.

Therapeutics:—Useful in the insomnia due to nervous excitement, maniacal excitement, etc.

Dosage:—1/1000 gr. to 1/100 gr. as a hypnotic; 1/100 gr., for full effect. As a sedative, 2 to 4 granules of 1/1000 gr. each, three to six times daily.

Hyoscyamine Sulphate

The salt of one of the alkaloids (Hyoscyamine), from Hyoscyamus Niger (Henbane).

Physiological effects: — Hyoscyamine in moderate doses acts especially on the sympathetic system; stimulates the vasomotor fibers, slows and regulates the cardiac action, and accelerates the movements of respiration. Peristalsis is also increased. It provokes dilation of the pupil, redness of the skin, and dryness and redness of the mouth and fauces, by lessening the mucous and sudoriparous secretions. As a matter of fact, it is isomeric with atropine in chemical construction and physiological action.

Therapeutics:—Useful in all nervous affections in which contractibility is exalted. Also in constipation, strangulated hernia, intestinal obstruction, colic attending gall-stone, uterine colic, enteralgia, gastralgia, dysuria, bronchitis, bronchorrhea, ptyalism, etc.

Dosage:—1/1000 gr. to 1/250 gr. one to four of the smaller dose every half hour until effect and then *pro re nata.* This drug should be discontinued when the pupil is fully dilated. The larger dose may be used in spasm, as in uterine or bilious colic and in amenorrhea.

[*To be Continued.*]

DR. BRYCE'S TALK

The Physician's Last Duty to His Patient

I had not been practicing very long before I realized that there were other obligations to my patients besides the administration of drugs for the relief of physical ailments, and that the hopeless and helpless would often look to us for an anodyne to soothe their souls in their last agony.

Next to the minister, the medical man, of all others, is most often called upon to comfort the dying, and it is something they have a right to expect of us when their minds are racked with anxieties and fears of the unknown.

I well remember the first time I was asked by a dying man to pray for him, and of my feelings of utter unfitness to attempt to afford him comfort through any appeal I might make for the peace of his soul. The man was a stranger to me and I had been called in an emergency to see him. He was terribly crushed by being caught in some machinery and, at a glance, it was apparent that he was dying of shock. His face was more expressive of apprehension than of pain. Indeed, he was not suffering pain, and my experience has been that few who reach this stage of shock have either pain or fear as dissolution is approaching. This is the blessed panacea for all our troubles at this trying moment.

The poor man was surrounded by his wife and three small children, who were dependent upon his daily toil for their support. He knew he was about to leave them, and he realized the condition in which they would be left. It is hard to realize the agony he experienced at the thought of separating forever from them under the circumstances. With his arms around his wife and little ones, he said: "Doctor, won't you pray for me before I go?"

I saw that he was passing rapidly and, feeling that an appropriate prayer might comfort him, I turned to a faithful old colored woman standing at the foot of his bed and asked her to pray. She dropped upon her knees and, clasping the poor man's hand, pleaded with God to bring comfort to his soul and go with him through the valley and shadow of death. When we arose from our knees, I noticed that he was dead, and his features were as tranquil as those of a sleeping babe. This circumstance put me to thinking. I had been instructed during my student days how to meet various emergencies likely to be met with in practice; but here was one that had never been mentioned in the lectures of my professors.

The late Prof. O. F. Manson, of Richmond, was one of the few medical men who recognized that a physician's duty to his patient did not end when drugs were no longer effective, but that it was a comfort to the departing soul to have his physician sit by him and hold his hand in the bond of human sympathy as he fell into his eternal sleep.

The physician who has no fixed belief in a future life can certainly not say anything to comfort the one about to pass into the unknown and be separated from his or her loved ones in this life. With the certain knowledge that death is finally inevitable for every one of us, it seems the most reasonable thing for us to try to reach some definite view as to what is beyond. It is refreshing to know that such thinkers as Prof. W. W. Keen, of Philadelphia; Dr. Beverley Robinson, of New York; the late Dr. Theophilus Parvin, and other splendid men in our profession, have in their writings and teachings set forth the consoling value of the belief in a future life, both to the living and to the dying.

My observation over a long period of practice has been that very few people actually fear death when the time comes, but that they dread the idea of separation or parting from their loved ones or from the living. They want the companionship of the living to the last moment. This seems to explain the great

desire of so many dying persons to see their friends once more before going and to bid them farewell. I have seen life prolonged several days by the fight to live until some dear one had arrived from a distance to say goodbye to them. But, if we can bring ourselves to realize that our fear of eternal separation is groundless, we as physicians can always be found ministering to the suffering even in the face of death itself.

What more beautiful thought can we carry with us through life and its close than the following lines penned by Dr. William W. Keen, Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia:

Immortal Youth

A Message to Those Who Lost Their Sons in the Great War:

To many of the patriots and loving and bereaved fathers and mothers whose sons have fallen in the great war, I have found that one of the most comforting thoughts has been that their "boys" have been thereby endowed with "Immortal Youth."

No matter how long the parents live, their boy will never grow old to them. Had he and they lived together for ten, twenty or forty years, the boy of twenty-odd would have become the man of even sixty-odd, with gray hairs and the *pes anserinus* furrowing his temples.

Once he has given life itself for liberty and civilization, he has passed from the Realm of Time, with its changes and vicissitudes, its aging and decrepitude, into the Realm of Immortality. There he will never lose the bloom of youth, with his well-remembered inspiring buoyancy, his affection, his ardent, hopeful, cheerful life. Immortality for him and them knows neither decay nor decline. Its voice is ever that of vigorous, hopeful, radiant Eternal Youth.

I believe as firmly in Immortality and the Future Life as I do in my present existence. Hence, I believe that Immortal Youth is the future of our young heroes who have made what is well called the "Supreme Sacrifice."

PECCAVIMUS!

The subjoined letter explains itself:

Editor,
The American Journal of Clinical Medicine.

It is always a pleasure to read your editorial utterances. They are usually couched in the best of English, the sentences are well rounded, the topics are of human interest, and one readily concludes that a thinking and logical mind has wielded the pen which supplies the messages they contain. However, even Jupiter has been said to nod and, so, sad to relate, in your well-timed and wise contribution on "Careless Speaking and Writing" (Feb. 1923, p. 92) you sin in the very particulars which you seek to correct. To specify:

"Such carelessness is rampant." I question the correctness of the use of the word rampant in this connection. It is true that such carelessness is quite general; but is it rampant? Farther, is not the very fault of which you complain, manifest in your use of the word "steno", unquoted and interpolated in a later sentence of the article in question?

Again: "why in time does he not say so?" Here is an instance of the needless use of "in time" (probably mentally intended to take the place of a more sulphurous expression), unless you expect the sinner to correct his transgression at some future date.—Once more:

"In papers and also in discussion for medical societies, etc." Here indeed is a jumble! The discussions are *"in"* medical societies and the ear plays no pronounced part in seeing what is written in a "paper."—And again:

"Words, expressions, technical terms are part of our tools." Are they not our tools or of our tools and if of them why designate a group with a singular appellation? And why also spell this last word with one "l"? [Typographical error which was overlooked. —Ed.] Should not these tools be fitting instead of "correct"?

"Before their sense is made out." I am quite sure that the inelegancy of "made out" is manifest to you. Ascertained, deciphered, manifest, deduced, apparent, evident, clear—any one of these words could be attuned as a vehicle to the idea you wished to convey.

Why speak of the typewriter as a "tool" when it is quite apparent that it is an "adjuvant" in the sense of your picture?

All of the above comment is not with the thought of being carpingly censorious but is volunteered because the writer believes that you are unusually capable but also that you are careless. Be a bit more critical of yourself (you write as though you had the knowledge and the sense to avail yourself of introspection) and we will have a far more pleasing dish of combined sense and rhetoric placed before us when the menu indicates "Clinical Medicine Editorials".

Very truly yours,

Amicus

—

As we have not the slightest inkling of who "Amicus" may be, and as we have no wish or intention of ignoring his good-natured but justified criticism, we must, *nolens volens,* publish his account of our short-comings and admit our consciousness of wrong. Still, we can not plead guilty to the extent charged in the indictment. For instance, we believe that "such carelessness is rampant" expresses tersely and vigorously our exact idea. The "New Standard Dictionary" defines *rampant* as "Exceeding all bounds; unrestrained; wild; as, *rampant* ideas." If rampant ideas, why not

rampant carelessness? The carelessness, of which we speak in the editorial article referred to, is more than general: it is obtrusive, aggressive; in short, rampant.

Our use of the word "steno", unquoted, etc., may be objected to. True, a strict obedience to good usage does not condone the indulgence in slang terms. That being the case, we shall in future spell out the word rather than use the abbreviation in quotes. We have a particular dislike of quotation marks, unless they have a very decided meaning.

"Why in time does he not say so?" Oh, well. "Amicus" is quite correct in thinking that "in time" (here, the quotes mean something!) was intended to take the place of a more sulphurous expression. The latter would not be parliamentary, so to speak; at least, it would not be polite. And, we believe in being polite—whenever possible. As to our expecting the sinner to correct his transgression at some future date—that would have necessitated a different arrangement of words; for instance: "Why does he not say so, in time?" How's that? However, that is not what we meant to say, at all.

"In papers and also in discussions for medical societies"—instead of *for,* read *before.* That will be better.

Most of the remaining strictures are slightly forced. At least, they impress us in that way. If "Amicus" will give us a post address, we shall be glad to take up our further differences of opinion privately. The charge of carelessness is not, we admit, accepted with good grace. However, "Amicus" covers the bitter pill with a nice coating. At any rate, we accept his good intentions and can but express our wish to meet our critic in person—"in time". Just one thing more, though: Go back to the first paragraph of the letter. Does a "thinking . . . mind "wield" the pen? Does it not rather guide or influence it?—Ed.]

"THE BEE IS SLANDERED"

In Clinical Medicine for April, we broke a lance for the busy bee who (we said *who*) had been, we believed, unjustly held up to obloquy and had been accused of frequenting the shady places of the farm underworld. It seems, alas, that our confidence in the "charming little lady" was sadly misplaced. We are assured that she does do various things of which we had believed her incapable.

At any rate, "Yours truly," to whose correspondence we had referred in our editorial, replies, again anonymously, as follows:

"I wish to say that it is not a case of slander; and, however charming the lady may seem to you, do not let her charms be misleading.

"It can be proven that she does frequent outdoor closets and shady, filthy places of the underworld. I have seen her there many times, and, while it pains me greatly to class her as an underworld character, yet a chain is no stronger than its weakest link; and, if she must be seen eating and drinking at such places, she will have to take the consequences. Your correspondent was right."

—

Dr. W. F. Schrader, of Ft. Wayne, Indiana, whose observations in "Maternal Impressions" our readers will remember (for instance, Clinical Medicine, 1922, December, p. 931), also bears testimony contrary to our opinion. He says:

"I was raised on a farm, in a section of Ohio, where many farmers kept bees. Some had extensive apiaries. I was full of the child's curiosity to know about birds, bees and insects; and, when ten years old, my father permitted me to have a colony of bees, though he feared them and would have nothing to do with them. When I grew older and stronger, throughout a period of twelve years, I never had fewer than ten colonies.

"When I found bees frequenting the privy vaults at my own home and on the farms of neighbors (this occurs in the hot, dry periods of summer), I tried to find out what they sought there and what use they made of it, but lacked training and facilities for assuring success. Since then, I have had no opportunity to take this up, though a decisive urge to investigate was given me a few years ago, when I meant to ease myself in a farm privy and a double rear-end collision occurred, with the fatality of one honey bee and a crippling for a few days of my inclination to sit down.

"I do not remember ever having seen bees frequenting the stables or cesspools. Bees gather certain materials for specific uses. They know when and where to find these and when and how to use them. Certain foods are used only to feed developing queens, others to feed the young brood and still others to poison marauders and kill off surplus drones.

"I do not believe that any infinitesimal part of what they carry from the foul places is ever found in the stored honey.

"The bee always knows what she is doing and why she is doing it. She is a wise bird and we have yet much to learn about her ways."

—

A third correspondence on the subject comes from Dr. S. A. Brunner, of Krumsville, Pa. He puts us poor "city guys" in our places and convinces us of rank ignorance; thusly:

"Your recent article, 'The Bee Is Slandered,' reminds me of the story of the western doctor and his son, a recent graduate, who, finding an injured Indian lying by the roadside, proceeded to examine the nature of his injuries. While examining the head, the son remarked:

'Looks to me like a buck.' The elder was examining the hips and remarked: 'From my point of observation, it looks like a squaw.' So, in this case. From the observation of 'us country boys,' we are able to inform your royal highness, ye editor, that it is a matter of common knowledge to see your 'charming lady bee' busy around filthy places, stagnant pools, barnyards, especially after the farmer has hauled the manure to the fields and on the edge of the pigsty floor where the liquid runs away.

"This is noted more so in a dry season than a wet one and is frequently due to inability to procure water elsewhere.

"It will be remembered that a certain number of bees carry water, another number carry honey and others carry wax.

"In the dry season, especially in July and August, when the bees are raising their second brood, this is to be seen more frequently than at any other time. It has seemed to me that, possibly, they gathered some dissolved mineral matter, likely saline, in so doing.

"Of course, you see them frequently around clear water also; it is probable that they use some of this for the raising of the young brood. I have suggested using a periscope to enable us to make further observations, but we have not as yet done so.

"Last summer, in a neighboring village, an auto ran over a chicken, flattening it. A bee-keeper, standing near by, happened to note this and, while he was looking, inside of fifteen minutes, he observed six or seven of his bees sitting on the chicken and evidently gathering something from the remains.

"An old bee-keeper told me, several years ago, that he observed a certain party sprinkle wheat flour on his neighbor's bees while they were sitting on flowers. These bees carried the flour to their hives on their bodies which caused the honey to turn sour (ferment), and the entire swarm died.

"In the fall, when the leaves of the trees have the sweetish exudate upon them, and the dew gathers upon it, the bees are particularly active on these leaves and take little water elsewhere. Hence, the honey sold as Honey-dew is not regarded as pure.

"Now, why the bee gathers matter from questionable places, is a matter of conjecture—at least it reminds us of the teacher asking the boy, Do you know 'How doth the little busy bee?'; to which he replied, 'I don't know how he doth it but he doeth it.'

"You admit that you harbored your opinion, but it seems to me without fact; yet, when a man makes a statement, you are not positive of yourself, you have the nerve to classify him 'as an instance of the hopeless vagaries of which some poorly-regulated minds may become guilty', and broadcast it—adding insult to injury. I have observed of which I speak, years ago—one case particularly, a diabetic, who called my attention to his outside urinal and joked how he was supplying his neighbor with fresh diabetic sugar for his table. On the place named, I noted at least seventy-five bees gather something."

So, then, we stand convicted of having made an assertion on matters on which our information was faulty, our knowledge evidently nil. We are sorry and we apologize especially to "Yours truly" whose suggestion no longer seems as far-fetched in the light of all this evidence as it did at first. Is "Yours truly" appeased?

SOCIETY FOR THE STUDY OF CANCER

It has been proposed by many physicians to form an American Society for the Scientific Study of the Medical Aspects and Treatment of Cancer, the exact name and plan of work to be determined after it is organized.

As I was instrumental in creating the American Dermatological Association, by inviting those interested in dermatology to meet during the session of the American Medical Association in Philadelphia, on the occasion of the Centennial Celebration, in 1876, which Dermatological Association has continued in great activity ever since, I have been asked to issue a call to those especially interested in cancer to come together and form the Association first mentioned.

As so many of the profession expect to gather at the coming meeting of the American Medical Association, in San Francisco, June 25th to 29th, this year, it has been thought that that occasion would offer a good opportunity for the consideration of the matter. The plans, scope, and details, and also the name of the Cancer Association could then be worked out, and the organization be effected.

I am, at the request of others, writing to ask if you would be interested in the undertaking, and if you would probably be there and take part in the organization.

Hoping to hear favorably from you shortly, I remain

Sincerely yours,

L. Duncan Bulkley, M. D.

New York City.

P. S. If you can not be at the organization meeting, I should very much like to know if you are in sympathy with the work, and would accept membership in the Society when it exists.

[In connection with the foregoing letter, the reader is referred to an announcement, on page 445, of a contemplated journal devoted to the study of cancer. Doctor Bulkley will appreciate expressions of opinion regarding the need of such a journal, and also will be glad to receive assurances of support in the form of subscriptions.—Ed.]

TALKING OF THE COUNTRY DOCTOR

Maybe I was born with a perverted sense of humor, but an article published in a recent issue of the *Nation's Health* and reviewed in the *Literary Digest* strikes me as being the most uproariously funny thing that I have run across in many a day. I very much fear that the mantle of the late Mark Twain has fallen unconsciously upon the shoulders of the author of "A Call for Country Doctors." I fully appreciate that the writer did not intend to pose as a humorist but was speaking in all seriousness from the depths of his swivel-chair ignorance and with the possible hope that his literary effort would cause the city practitioner to immediately pack his war bag and beat it out to some rural community and there enjoy all the blessings of pure air, warm sunshine, and home-cooked victuals. Why don't they do it? Why don't the rural districts have adequate medical service while the cities and larger towns are filled to overflowing with doctors who are scarcely making a decent living?

Having been a country doctor all my life, perhaps I can answer that question.

The gentleman mentioned above says that the first thing is, to make the country a more attractive place in which to live, from a professional, social and economic point of view.

If he had been content to say "economic point of view," there had been but little to criticize in his remark. And that is the crux of the whole matter. The country is not attractive from an economical point of view. The average bucolic is perfectly willing to call in his medical man when in dire physical distress, but that medical man is the very last to share in the material blessings when the crops are harvested. I know, for I have been there. The country doctor is supposed, nay, expected, to hustle out in the middle of the night, no matter how stormy and inclement the weather, crank up his flivver and burn up the highway getting to some ignorant soul in distress, give the best there is in him, then wait and wait and wait for a little financial recognition.

It is not altogether those who are suddenly overtaken by sickness or accident and may in some measure be excusable for not being prepared, but maternity cases are equally lax. According to all the writers on the subject, the expectant parents have at least nine months to make ready for the arrival of the increase; still, over half my obstetric patients serenely ask me to charge it—and I do. And that's about the last I hear of the matter. I have men and women in this state voting the republican ticket, at whose arrival I assisted, and I am still patiently waiting for my fee.

There is also another slant to this money matter that affects us country doctors. Honor bright, now, country cousin, say if I am not telling the truth? Whenever we do get a dollar, don't they throw it to us very much as they might throw a bone to a dog or drop a penny in a blind beggar's hat, then put on a smug expression, a decidedly Christ-like expression, as though they had done a charitable act and the angel of the Record Book was even making a very flattering entry next their names?

Then there comes another very cogent reason why doctors shun the country life as they might the shade of the deadly Upas tree. I opine that, on the average, the man who does elect to follow rural paths is quite as well fitted professionally as his more urban brother. At the same time, the country doctor may give the most painstaking attention to the study and treatment of every individual case; he may apply the "arms of precision" with just the same degree of skill, and yet, if the patient does not recover quite as speedily as he or his overzealous neighbors think advisable, off he trots to some more centrally-located practitioner who looks over the case, draws a long face and either vocally or silently gives the impression that the poor afflicted did well to come when he did or it would have been everlastingly too late. The city doctor does not say that, perhaps, in so many words, but his manner conveys the impression that if *he* had not gotten the case just when he did, the sufferer would have been sweeping through the pearly gates to the music of the celestial orchestra. This does not apply to all city physicians, but it does apply to a large percentage of them. They preach medical ethics and they practice the ethics of a Digger Indian.

Perhaps the seeker after health hears of the wonderful cures of some osteopath, chiropractor, naturopath, Christian scientist, or any of that tribe of ignorant fakers that lie in wait to prey upon the credulity of the suffering. He immediately rushes off to get his muscles rubbed, his spine punched, or his ego corrected, leaving the hard-working country doctor with an unpaid bill as the sole legacy of his efforts.

However, the thing in the article which

excited my risibilities most was the suggestion that rural communities should erect community hospitals with laboratories, clinics, nurses, and consultation and diagnostic facilities. Now, if that isn't the prize wheeze, I am at a loss to know where you are going to find one. When I read that, I got a mental picture of President Pritchett sitting back in his palatial office in the Carnegie Foundation dictating that sublime thought to his blonde stenographer, the while a halo of saintly light played around his alabaster brow. It is perfectly all right for these self-appointed regulators to dream dreams, but, in the name of Heaven, let them keep them to themselves, or at least work them off on people who are not familiar with conditions! Now, Mr. Pritchett, if you are so filled with the desire to benefit the country doctor and the rural community, come on out here and I will turn you loose among a lot of Mormons who are the most hard-working and economical people on earth, and see how far you get with your rural hospital idea. No, my dear president, you are engaged in the wrong vocation.

Now, if you were interested in cholera in hogs, or lumpy jaw in cattle, you might hope to get somewhere, but, you must remember that, to a great many people of seeming intelligence, disease is still a visitation of Providence. Your rural hospital idea would be immediately branded as a scheme to help the doctor and the doctor is the last man on earth they desire to have benefited. This is not peculiar to my community, but is common to practically every rural district in the United States. There are exceptions, of course, but they only serve to emphasize the rule. Then, too, if you have ever had any experience in trying to extract money from a legislature, you have found that there is taxpayers' money for every eventuality in life except the care of the sick. We are here, in this state, just fresh from trying to get an appropriation of a measley $5000 for child-welfare work, and our experience is simply an echo of what would occur if we were to attempt to secure an appropriation for the establishment of community hospitals. I take it that even Mr. Pritchett would not expect the citizens to float the entire enterprise.

No, looking at it from every standpoint, I can very readily understand why the doctor does not care for the country. I don't, myself, and I suspect that, if Mr. Pritchett were a doctor, he wouldn't either. The average doctor can get along very nicely without the so-called social atmosphere; he can create his own intellectual life; but, when it comes down to separating the hard-handed son of toil from his dollars, there, according to Shakespeare, "is the rub." So, if you, or Mr. Pritchett, know of an ambitious medical man who wants to tackle a perfectly hard-boiled country community, I shall be very pleased to have his address; for, in the expressive vernacular of the west, I've had enough.

CHARLES S. MOODY

Menan, Idaho.

TREATING SUPPURATING WOUNDS WITH CHLORAZENE

Herewith is presented a translation of reports of clinical cases treated with Chlorazene by Dr. Roberto Morales, of Mexico, as described in his final thesis for the degree of doctor of medicine, submitted to the National University of Mexico.

Case No. 1.—F. D., 47 years of age, native of Guadalajara, entered the hospital at Juarez on the 27th of May.

There was an exposed comminuted fracture of the bones of the right leg in their middle third, the patient having been struck by an automobile some 36 hours previously. There was a diffuse phlegmon of the leg.

An emergency operation was performed by Dr. Gaudencio Hernandez, a sequestrum being removed and drainage established. The operation was performed under local anesthesia produced by cocaine. The condition of the patient was so bad that amputation was believed to be necessary. This was not done, for fear that the patient would be unable to withstand the operation. The following day, treatment of the wound was begun, using a 1-percent solution of chlorazene for irrigating the wound. It was noticed that the local condition of the wound improved notably, as well as the general condition of the patient; the temperature falling from 40° C. to 37.8°. (104° F. to 100° F.). The wound was irrigated three times daily. Five days later, the temperature was normal; the state of the wound was very satisfactory and entirely without suppuration. After eight days, irrigation was suspended and antiseptic applications were used.

At the present time, this wound is perfectly clean, without any secretion. No secondary suturing was done because it was the intention to do bone grafting with the object of preserving the usefulness of the limb.

Case No. 2.—M. M., 70 years of age, native of Toluca, Mexico, entered the Hospital

Juarez on the 20th of April. This case presented an exposed fracture of the left tibia—at its inferior epiphysis, and dislocation of the tibiotarsal articulation, the astragalus turning forward. This traumatism was the result of being struck by a truck. After reducing the luxation, tincture of iodine was applied and drainage secured by means of sterile gauze. An abundant suppuration followed two days after. The temperature of the patient varied between 37° and 39° C. (98 3/5° to 102° F.).

This condition persisted until the 15th of May when, at the suggestion of Dr. Hernandez, an operation was performed by Dr. Francisco L. Rocha. This consisted in opening the wound and extracting various fragments of bone, removing irregularities and placing gauze drainage. Following this operation, the wound continued to suppurate until, five days later, treatment was begun with irrigation with chlorazene solution, using three tablets in 150 Cc. of boiled water. The irrigations were made three times daily by the gravity method. After seven days more, the wound was clean and without pus. The patient was cured June 16th.

Case No. 3.—F. Q., 52 years of age, native of Guadalajara. Entered the Juarez Hospital April 3rd. This patient had been painting a wall and, falling from a height of 5 meters (16½ feet), was rendered unconscious, and there was a fracture just below the trochanter of the left femur, the superior part producing a large prominence of the soft tissue. Various forms of apparatus were tried (Tillaux, Henequin, etc.) without it being possible to adapt the fragments.

This condition continued for 25 days, after which the skin over the superior fragment became ulcerated. It was decided to intervene with the object of suturing the extremities of the fracture. This was done by Drs. Hernandez and Siliceo. On operating, a number of bone splinters were removed. The two fragments of the femur were sutured with silver wire. Drainage was provided and extensive and tenacious suppuration of the bone followed. This was the condition one month following the operation, when treatment of the wound was begun with irrigations of chlorazene in 1-percent solution (one tablet to 30 Cc. of water). Eight days later, the suppuration had ceased and, in 18 days, the wound had cicatrized; the bone had united perfectly and the patient could move the limb freely on June 19, 1919.

Case No. 4.—P. M., 15 years of age, native of Mexico City. Entered Juarez Hospital May 13th. This patient had been struck by an electric car and suffered an open comminuted fracture of the bones of the left leg in its middle third. The center of the fracture communicated freely with the outside and was filled with dirt. Dr. Ramos Hernandez, hospital interne on duty, operated, removing the broken piece and providing drainage. The treatment, begun the following day, consisted in painting the wound with tincture of iodine, gauze drainage and also wire drainage.

The wound began to suppurate abundantly from the first day, proving a severe strain upon the patient, who had temperature varying from 37° in the morning, to 39.5° (98 3/5° to 103° F.) in the evening.

Seven days following the operation, treatment was begun with a solution of chlorazene, 1-percent solution, instilling some 30 mils of this solution into the wound by means of tubes that were introduced and attached to a gravity buret. This treatment was given only once daily. On the 16th, suppuration had entirely ceased and the wound presented a marked red color. Application of chlorazene solution was suspended and dry dressing applied.

At the present time, this wound is healed completely and there is a perfect union of the bone fragments.

Case No. 5.—I. S. de R., a native of Ometepec, Gro. This patient presented symptoms of erysipelas of the anterior thoracic region, on the 22nd of January, and, 15 days later pneumonia on the left side. After having recovered from both diseases, mastitis of the left side developed and the patient was operated upon in her home, on March 19. As the mastitis had a tendency to become chronic, and there was no relief, the patient came to the capital and entered the surgical hospital of Dr. Donato Moreno on the 13th day of May.

On the 14th, the patient was operated upon by Dr. Moreno for a retromammary abscess, by means of an incision 8 centimeters (3 inches) long, made into the lower part of the gland. At the same time, some canals were opened that communicated with the larger cavity; a gauze drain was placed in the wound.

As the condition of the patient did not require hospital care, she left the hospital two days after the operation and came under the charge of my friend, Dr. Fidel Guillen.

In spite of the treatment, which consisted in application of iodine and gauze drainage, an abundant suppuration developed and it was

decided to apply irrigations of chlorazene beginning the first of the month.

Two sterile rubber tubes, a quarter of a centimeter (1/10 inch) in diameter, were inserted to the bottom of the cavity. These were packed with gauze and sterile cotton. Through the free extremity of the tubes was introduced 10 Cc. of a 1-percent solution of chlorazene. This was done three times daily by connecting the tubes with a gravity jar, as in the previous cases.

From the beginning of this treatment, a very decided improvement in the condition of the wound was noticed and, on the second day, the suppuration had virtually stopped. The patient improved daily and cicatrization progressed to such an extent that, in 8 days, it was only possible to introduce one tube into the cavity and this only for a distance of three centimeters.

Irrigations were continued until the 5th of June and, as suppuration had ceased and the wound was only superficial, irrigation was suspended and gauze applied. Three days later, the wound was completely healed and the patient was discharged on the 18th of June, 1919.

"TALKING OF ADJUSTMENTS"

I once inquired of a surgeon of long practice how often he had found dislocation of the vertebræ. He replied: "Not a single time." The Chiropractors and the Osteopaths in every town are saying that they are readjusting them by the thousands. Why not suggest to the public that they be requested to prove the dislocation by the x-ray, taken by a competent x-ray operator? This suggestion, generally carried out, would put a quietus to the "dislocated-vertebræ" fraud and fad. In one week, four men walked up my stairs and into my office saying that an Osteopath had said they had dislocation of the hip joint.

X. Y. Z.

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[Dislocation of the hip joint happens; but, with extreme infrequency and only through violent trauma. We well remember the tremendous effort that our professor of Clinical Surgery made, on the cadaver, many years ago, when he forcibly dislocated the hip joint and made us reduce the lesion.

Dislocation of the vertebral bodies hardly occurs without being associated with fracture; at least in other regions of the spine than the cervical. Still, it is possible for the articular surfaces of the transverse processes to be displaced, as this writer knows from painful personal experience. However, the injury was by no means casual or slight. It caused keen pain and interfered greatly with locomotion, even with lying, sitting and standing. Reduction was followed promptly by disappearance of all pain.

As a general proposition, our correspondent is quite right. Dislocation of the vertebral column is claimed to be present far more often, it must be said, than can be substantiated, because of the great force required for such a lesion to occur and because, in most cases, there is no history of such a force having been active. The diagnosis is an easy one to make, because it is so impressive and so difficult to verify, except by successful reduction.—Ed.]

THERMO-THERAPY, ELECTRO- AND PHYSIOTHERAPEUTICS

In 1912, I purchased a thermo (hot air) apparatus and began treating all forms of rheumatism, with good results. I have proven the efficacy of such treatment in acute and chronic diseases to my entire satisfaction.

In 1913, I bought a high-frequency machine. At the present time, I have a universalmode, a silent Roentgen transformer, which gives me x-ray, high-frequency, diathermy, thermofaradic, Tesla, autocondensation, d'Arsonval and fulguration. I also have an electrotherapeutic portable cabinet. This last machine I have in the room in which stands the thermotherapeutic (hot air) apparatus. My second room is the electric room almost exclusively. It contains the silent Roentgen transformer with six modalities, the universalmode, with its 15 modalities, the "improved concussor," the 200-cp lamp, Minin's Ruby Therapeutic Lamp. I treat and cure many cases of eczema with the Minin Lamp.

I think that electrotherapy and physiotherapy are more than handmaids of medicine. I would call your attention to the successful work that many physicians in our own and in foreign countries are accomplishing in the treatment and cure of malignant and many other diseases by the use of electro- and physiotherapy. I could not think of practicing medicine without electrotherapy and physiotherapy.

Case 1.—Mr. B. a groceryman. Came to my office, Oct. 15, 1913, suffering from chronic rheumatism. All his joints were enlarged, and his fingers and toes enlarged and dislocated. He had been to various watering places, for

treatment; but all without benefit.

I put a robe on him and stockings on his feet and legs; then placed him on the car of the thermo-apparatus (hot air), covering him with a cotton blanket, then pushed him into the apparatus and placed the ticking hood around his neck, tucking it under his pillows moderately tight, to keep the heat in. He was kept in for forty-five minutes. When the temperature was 250° F. the patient was drawn out, placed on a cot and well covered with blankets, to cool off. When sufficiently cooled, he was rubbed with a Turkish towel and well massaged. He was not allowed to leave the office until perfectly cooled off.

The treatments as described were given every day for the first week. Then the thermotherapy treatment and the high-frequency, with body electrode (violet ray off the Tesla Coil) were given alternately day and day about. In ten days from the first treatment, he walked thirty rods carrying a crutch in each hand. These treatments were given every day for one month, after which he walked with the aid of a cane.

Case 2.—Mrs. S., my daughter. Consulted Doctor R. of C.... The doctor's diagnosis was, chronic appendicitis, prolapsus uteri, a ptosis of the stomach and colon, cystic tumor of the right ovary. She refused operation for at least two or three weeks. She was then asked to come back within a week and bring her father along.

After a second examination, the diagnosis was essentially the same. I then made an examination myself, finding tenderness over the site of the appendix, deep pressure to the right of the second lumbar vertebra verifying the diagnosis of chronic appendicitis. There was prolapsus uteri. Stomach and colon were low, but I could not satisfy myself as to a cystic tumor of the right ovary.

I gave daily treatments with the slow sinusoidal current for 10 or 15 minutes each day.

Technic: The indifferent pad attached to the negative pole is placed on the abdomen with a layer of absorbent cotton, saturated with salt water, placed under the pad, and all covered with a piece of rubber. Doctor Roemer's self-retaining electrode, the pad of which has been wet in salt water, is attached to the positive pole by a bifurcating cord and applied over the 12th dorsal vertebra.

In less than two weeks, I had the uterus, stomach, and colon in their normal position.

I used the improved concusser at the same spine for 3 minutes, after each electric treatment. For the appendicitis, which may have been pseudo, or catarrhal, I treated with the slow sinusoidal, the indifferent pad placed over the site of the appendix, and Doctor Roemer's Electrode placed and held over the 6th and 7th dorsal vertebræ for five minutes at each vertebra. The results from this treatment have been, that the patient was symptomatically cured.

Case 3.—Mrs. K. Suffering from hypertension for several years. My treatment was autocondensation. The patient was placed on the autocondensation couch, one cord being fastened to the couch pad, the other cord to the brass electrode, the patient holding it firmly with both hands. The d'Arsonval current is then switched on, and the amount of current is controlled by the rheostat and spark gap. The d'Arsonval current is measured by the hot-wire milliammeter. I gave the patient from 600 to 800 M.A. each day for one week, then omitted treatments for one week, after which I gave the treatments twice a week. These treatments were followed by the improved concussor applied to the seventh cervical vertebra for 2 to 3 minutes. The patient's blood pressure was reduced from 250 to 160.

Cases 5 and 6.—Mrs. K. & K. These patients were suffering from inflamed varicose veins in the popliteal space and leg. They had pain and soreness at the popliteal space and along the limb below the knee. I first gave them treatments with the vacuum tube (violet ray), fastened to the Tesla coil by patient's cord. These treatments gave some little relief. But, I soon decided that diathermy would be a better treatment. I make the electrodes for most of my treatments of diathermy out of sheet lead which can be easily moulded to closely fit the parts to be treated. One of these (lead) electrodes with a layer of cotton wet in salt water is placed over the popliteal space, the other electrode with a layer of cotton wet in salt water on anterior surface of the thigh, just above the knee cap. Both these pads, covered with a rubber pad, are closely fitted to the limb and fastened with pieces of rubber tubing wrapped around it over the pads to hold them well in place. Then I turned on the diathermy current for 10 or 15 minutes. I gave these patients a treatment every day or two, as could be arranged. In three weeks or less, all the inflammation and soreness was gone.

One of the most neglected currents, yet the most useful on the high-frequency machine, is the d'Arsonval, especially when used for general diathermy. We use the term "gen-

eral diathermy" for those methods that apply to the bipolar d'Arsonval currents to the whole body by means of chair pad or cushion, and a metal electrode applied to some part of patient's body. It is impossible to give even a local diathermy treatment without producing general systemic changes, such as an elevation of temperature of the entire blood stream; but systemic effects are best marked after a general application.

W. N. MEALS,

Callensburg, Pa.

AMUSEMENT AND MORALS
The Need of Timely Instruction

[In an article published in CLINICAL MEDICINE for August, 1922 (p. 620), Mr. Bernard C. Roloff, Superintendent of the Illinois Social Hygiene League, made an appeal for clean amusements and timely instruction, to be provided for the young people, concerning the dangers lurking in the popular amusement places. The need of education and proper teaching was emphasized, as was quite proper. Recently, Mr. Roloff sent us a copy of a letter received from a physician in Bogota, Columbia, referring to that article and asking for assistance. Mr. Roloff's reply contains so much of general value that we are glad to publish the correspondence. It may aid physicians to impress the need of full and true education upon the parents who look to them for advice.—ED.]

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The letter from our Columbian colleague is as follows:

Would it be assuming too much if I beg you to send me any printed matter in relation to the subject? I know, it is a trouble I cause you; I fully understand that your invitation for people to go to you for instructions refers to U. S. people; and, yet, I can see in your article a great deal of humanity, and that grand virtue has no special boundaries. Anyway, if you kindly guide me (with your instructions and advising me where I can purchase books that deal with that subject), I will fully appreciate it.

I am interested on the subject, because I have sons and daughters approaching the teens, and also from the wider point of view of human inprovement.

Please excuse me, Doctor, and, if in any way, I can reciprocate your attention to this letter, please let me know.

A. C. S.

Bogota,
Republic of Columbia,
South America.

There follows Mr. Roloff's reply:

I am sending you herewith such printed matter as is accessible to me at this time and a manuscript copy of a new pamphlet I am preparing for the printed, entitled, "DAD" which gives a list of suitable books and where they may be secured. In explanation, I should say that "DAD" is a term of endearment used in this country instead of the word "Father."

My work here among the unfortunate penniless victims of venereal disease is extremely interesting though depressing. Despite this, I am most happy in it. Only yesterday, there came to our Clinic a beautiful cultured girl of 17 whose mother had told her nothing, and that fond mother is even now trying to save her daughter. It is like snatching a brand from the burning. But alas, the dear girl is already not merely singed but badly burnt. A cousin ruined her and, possessed of a most curious temperament with a craving to investigate life, this mere child (in our northern climate girls of this age still are children), has experimented until there is hardly a known sex experience which she has not tried. And she persists in the notion that she has a right to find out for herself.

Only one thing could have saved her and that would have been, sensible early religious and home training with early information as to the real and legitimate functions of sex, that is, for reproduction of life. By a miracle, she escaped gonorrhea and syphilis, though she requires a vaginal operation. But as bad as anything that could have happened to her, with all her apparent fund of worldly knowledge, she is to become the mother of an illegitimate child. Her father has cast her out—her mother, true to maternal instincts, is still fighting to save her child.

Not long ago, 16 north-side Chicago boys of excellent parentage met in a billiard hall and, "dared" by their leader, visited a negro prostitute. Four of them visited our clinic, all badly infected, one with a tropical ulcer that resisted all healing measures until after it had virtually destroyed the young man's reproductive functions. One had syphilis and the others gonorrhea. Every one of these young men, none over 18, blamed his father for not warning him of the consequences of vice. Yet, mere "Warning" alone is not enough. Curiosity must be satisfied. A growing boy, to whom sex functions have been explained in full detail by the right person, i. e., his father, will not be likely to experiment when he already knows how and why his reproductive function operates. Especially not if this knowledge is built upon a solid foundation of home-made character.

I am happy, doctor, to answer your kind inquiries. I should be glad to continue the correspondence if any poor knowledge I may possess would be of any further service to you.

B. C. ROLOFF.

Chicago, Ill.

"WHITE LIES" AND OPTIMISM

I have often deplored the fact that so many doctors are prone to tell their patients that there is no hope for their recovery, when they have exhausted their medical skill. An article

which I read in CLINICAL MEDICINE, written by a certain doctor who opposed such a procedure, interested me very much and I thoroughly agree with him. To me, it is heartless and cruel, to say the least. I don't care how sick a patient is and how much he pretends not to fear death. It is a shock to the system and bound to reflect on the general condition.

I once had a patient with lymphatic leukemia who, "every day, in every way," grew no better. She, realizing her condition, sent for her physician and asked him to tell her the truth. I did not think it advisable to do so. When the ordeal was over, I entered the room and found her very much discouraged and grasping at the last straw. She sent for an out-of-town doctor. He came and told her that, while there was life, there was hope, and that no doctor could tell positively the outcome. This gave her renewed hope and she tried every way to get well, even forcing food when she could not even swallow. She became so nervous that she had to be kept under the influence of narcotics till her death, which occurred about a week after she knew that she could not recover.

Some doctors are apt to show the grave condition of their patients on their own countenance, which, I think, is very unfortunate. Patients are very quick to note the expression on a doctor's face, and this may have a very depressing effect on a very sick patient. Doctors and nurses should be cheerful and optimistic in the sickroom, even though the patient passes out. Letting them know that they are going to die only harasses the sick and makes their suffering more intense. Many a patient has recovered with the uplift of a cheerful doctor and nurse. "Every day, in every way," I think, would help a doctor carry his patients through some very trying experiences.

FLORA LOWE, R. N.

Dallas, Texas.

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[The question, whether the physician should or should not inform his patients when their maladies are hopeless, has agitated the minds of most of us. To tell the truth under all circumstances and at all costs, has been advised by some prominent men; the average general practitioner will just do as he has always done, use his best judgment and, above all, avoid injuring his patient by causing him, or her, mental distress. There are circumstances (say, when a large estate is involved or other testamentary factor) when the patient *must* be told that recovery is impossible. Still, even then, it usually can not be said with any degree of certainty just how soon life will ebb out. Indeed, many times patients have lived to laugh at their doctors' gloomy predictions and have even attended their whilom physicians' funerals.

Is it ever wise to tell a patient that death is drawing near? It all depends on the patient. Many a one might consider a speedy release from suffering or incapacity as a welcome event. Some people would greet it with genuine joy. Most of us would rather wish to tarry a bit longer. Even the greatest sufferers usually cling to life; sometimes pitifully so. At any event, a definite statement on the part of the attending physician, that death is inevitable, necessarily must have an unfortunate effect upon the morale of the patient, or upon most patients—here, again, with certain possible exceptions.

Under ordinary circumstances, Miss Lowe's appeal to physicians to be optimistic in the sick room and to bring cheer to the sick, rather than gloom, is well taken and fully justified. It never benefits a patient to have the last prop knocked out from under him. As long as he may retain even a scintilla of hope, he will suffer less deeply than if his sentence has been pronounced. We agree with our correspondent regarding the great value of good cheer and of optimism in the sick room.—ED.]

SOME STRAWS THAT POINT

There are today, in this United States, our beloved country, some one hundred and fifty thousand legally-licensed and more or less properly educated doctors, who are wondering more and more: What is the matter with medicine? They hear about a remarkable doctor named Abrams, living in San Francisco, who is doing wonders employing some sort of a contrivance called an "Oscilloblast." Diagnosis made from a few drops of blood on blotting paper. The explanation of the miracle is along the theory of radioactivity and flip-flopping of electrons.

Most of these good men understand it about as well as they do the Einstein theory of the fourth dimension. They read the condemnation of this man Abrams in one popular magazine, and his laudation in another. They know that hundreds of doctors have been or are going to study the method. Hundreds of the "Oscilloblasts," at $250 each, plus $5.00 a month rent, are wigwagging big money out of people. A study of these men proves that nearly all of Abrams' disciples are not well

educated, scientifically or otherwise. Many are of the Homeopathic school and all are interested more in the money-making possibilities than in proving or disproving the truth of Abrams' claims.

Suppose that Abrams has hit upon some unknown law or laws (empirically, as he admits), and suppose that our best men, scientifically endowed to make the tests needed are so biased and prejudiced that they refuse to investigate. Must we have the story of Pasteur repeated? How much we do need a public health service to test all these things; and, when found of merit, to appropriate them for general public good.

What has been said about the Abrams treatment could well apply to "Autohemic Therapy," "Endocrinology," "Chiropractic" and other alleged wonders of the day, that are rapidly making chaos in medicine. Hundreds of rural districts are in need of doctors, thousands in the cities are not making a decent living. What is the answer?

Do we need an authorized Public Health Department that will do for all the people the best that medical science can do? One that will control the manufacture and distribution of all medicinal agents? One that will organize and correlate all institutional treatment, both surgical and otherwise, from the motive of service?

Or shall we let the dog-eat-dog game go on, preying on the public, exploiting the profession, condemning the new, punishing the refractory, and trusting to time for scientific vindication?

Watching the straws that point is interesting, isn't it?

C. E. BLANCHARD

Youngstown, Ohio.

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[The disturbing thing about Abrams' method is, that several physicians in good standing, and in whose opinion we have confidence, have assured us that they are getting excellent results from its application. True, there are many things in this violent propaganda that is now being carried on, mainly through *Pearson's Magazine,* its Editor, and with the enthusiastic assistance of Upton Sinclair, that touch decent people on the raw, that impress one as quackish and charlatanic. We have not been able to become sanguine or hopeful from what we could learn about the electronic form of medication—whatever that may be. Also, it must be admitted that it appeals more particularly to a certain element in the medical profession, men and women whose good faith we would not wish to question, but some of whom, unfortunately, can hardly be said to be capable of judging dispassionately and objectively. Until better evidence is afforded of the justice and correctness of Abrams' claims than we are familiar with, we must watch and wait; neither approving nor condemning. We are willing to be shown. More we cannot say.

As to autohemic therapy, endocrinology, chiropractics, which our correspondent throws into one basket so indiscriminately, the two former methods have much of merit. So has the latter one, if practiced by one who understands both its possibilities and its limitations. None of these methods of healing may be viewed as exclusive or as absolutely definite. They may only be employed within proper limits and with the assistance of other measures that may be just as important for ultimate success.

An authorized Public Health Department, entrusted with the investigation of newly offered or proposed methods of healing, might accomplish much good. However, it would all depend on so many things, and these are another story; in fact, many other stories.—ED.]

CANCER

A Quarterly Journal Devoted to the Best Interests of Cancer

The aim and purpose of this publication are to concentrate in convenient form all that will conduce to a better knowledge of cancer as a disease, its cause and proper treatment, in its different forms and manifestations in various regions of the body, and thus to aid in lowering its steadily rising mortality.

It is recognized that many think that Journalistic medical publications are already too numerous, and a new one will undoubtedly meet with criticism. While each journal has its own circle of readers, it is of course impossible for any person to cover them all, and information which might be desired on any particular subject is scattered through so many journals that it is often tedious and difficult to completely compass any one topic which is being investigated.

For this reason, there have been and are many special journals each devoted to its own branch, which have been of great service to the profession; such are those devoted to tuberculosis, syphilis, brain, radium,

skin diseases, eye diseases, diseases of children, surgery, obstetrics, electrotherapeutics, etc., etc. There is already one publication in this country devoted to cancer research, but it must be acknowledged that it has not, thus far, contributed much to the practical side of cancer, and does not materially aid the practitioner as to the best methods of handling cases of this dire disease.

While the main effort of this journal will be devoted to the study of carcinosis as a systemic or constitutional disease, and to its manifestations in man rather than in animals, it will be open-minded and give consideration to any and all methods of treatment which have proved to be of practical value in its control; the claims of surgery, X-ray, radium, diathermy, serums, etc., will be fairly considered. The editors and collaborators, as well as contributors, will have free rein to express their views of the relative merits of every procedure or measure, as it may bear upon the object of the publication as already expressed.

"Cancer", therefore, invites the medical profession to a warm and hearty support of its aim and purpose, and to the contribution of such scientific material as may advance the cause of humanity in its struggle against a disease whose mortality has outstripped that of tuberculosis in New York City, for the last two years. With at least 80,000 deaths in the United States each year, and consequently at least 80,000 new cases developing yearly, and with the probable existence of over 300,000 patients now affected with cancer in this country, and really millions through the world, it would seem that a special journal devoted to its practical aspect is called for. On such grounds "Cancer" appeals to the medical profession for its earnest and faithful scientific and practical support, and should appeal to every thoughtful person.

L. Duncan Bulkley.

New York City.

IN THE MATTER OF TAXES

President David Kinley, of the University of Illinois, at Urbana, Illinois, recently issued a circular entitled "Where Lies the Burden of Taxation?", from which we cull the following information:

1.—In the assessment year 1921, the Federal Government raised, in Illinois, in taxes of various kinds, $388,000,000 (the amount for the fiscal year 1922 was 118 million less, mainly from decrease in income and excess profits taxes, transportation, etc.).

2.—The Local Government units of Illinois (county, roads, bridges, township, school, city and village, etc.) raised, in the same year from general property tax, $216,389,000.

3.—The State Government of Illinois in the same year raised, from taxes on property of individuals, $19,078,000.

4.—The grand total of these is $623,467,000.

5.—Of the total taxes paid, about 62 percent was for Federal purposes, 35 percent for local purposes, and 3 percent for State purposes.

6.—That is to say, of each dollar paid by the people of Illinois in these taxes for the support of the Federal, State, and local governments, 62 cents went to Washington, 35 cents were locally expended, and 3 cents were spent for general State purposes. If the whole State general property tax had been abolished, each Illinoisan would have saved 3 cents on the dollar of the above taxes.

7.—Of the amount gathered from Illinois by Washington, in 1921, the Federal Government spent more than $100,000,000 for educational and research purposes of the same general character as those of the University of Illinois. It is probable that the people of Illinois are paying to the Federal Government for educational work, over which they have no direct control, nearly double the amount which they are paying for the support of the Normal schools and the State University, and more than they are putting into the common school distributive fund and the Normal schools together.

President Kinley believes that the tax agency requiring our most careful scrutiny just now is at Washington. It is a fair question, he claims, whether the Federal Government is not doing some things which it ought not to do and is imposing taxes to do them.

We have heard it said repeatedly that several of the states of the union, Illinois among them, are taxed in support of certain federal activities out of all proportion to the benefit that accrues therefrom to the people of these states. Take the matter of government "assistance," such as it is offered in the notorious Sheppard-Towner Bill. States like Illinois, Massachusetts and some others are required under it to pay the greater share for sums that are given by the government to government agencies working under this bill in other states. It is our personal opinion that taxation for the purpose of raising money for

federal expenses should benefit all people equally and not be diverted for the benefit of local requirements in places where the people are content to accept federal aid secured from other states.

We believe that President Kinley asks a very pertinent question when he suggests that the federal government is doing some things which it ought not to do. The tendency to paternalism, to centralization is not a wholesome one. It is bound to lead to trouble.

Coming to the question of education, we are told that the Illinois State University received seven and one-half cents for every dollar paid by the people to the state in 1921 for federal, state and local purposes. Some years ago, in 1911, to be exact, the state appropriation for national education and for good roads amounted to $14,829,087. Out of this sum, the university received 16.2 percent. In 1919, the share of the university was 8.8 percent of the state appropriation. In 1921, the university received only 8.2 percent.

The total state appropriation in the ten years, 1911 to 1921, increased by nearly 280 percent, while the increase in the university appropriation for that period was less than 100 percent. It might be asked pertinently why the state of Illinois devoted relatively less of its resources to the furthering of education than it did ten years earlier.

These figures show the error in the assertion that has been made that increased appropriation for education are alone responsible for an increase in the tax rate. While taxes have soared sky high, the proportion of the sums realized that was devoted to educational purposes is actually close to one-half only of what it was at the beginning of the ten-year period under consideration.

We in Chicago have a special interest in this matter because of our local troubles through which enormous sums intended for educational purposes have been diverted into the pockets of politicians and others who enrich themselves at the expense of our children. The matter of appropriation for educational purposes is an important one. We believe that, some years ago, the State of Illinois showed remarkably small percentage of illiteracy and we remember reading somewhere that this percentage has increased tremendously. It should be the ambition of every state in the union, not only of Illinois, to favor the interests of the growing generation to the fullest possible extent. It is our bounden duty to provide fully and sufficiently for the education of our children and it is incumbent upon us to permit no misappropriation of funds that should be utilized for educational purposes.

The matter of taxation is decidedly a burning problem. This is true not only for local conditions but is equally true for the states and for the federal government. A mighty house-cleaning is called for in this matter and a sane policy of retrenchment and of economy is urgently needed, if we are to save ourselves from very serious happenings.

STOMACH IN SICK HEADACHES

It is perhaps presumptive to speak of aborting sick headaches or of curing them. Yet, I have become satisfied through years of study of this affliction that this may be done. In the first place, let me say that I have been a sufferer from it for more than thirty years, having, as I believe, inherited the disposition to it from my mother who had it almost a lifetime.

Most authors agree that migraine, or sick headache, is largely due to indigestion. Back of the indigestion are other causes at work. For instance, suppurating tonsils or other causes of infection will derange the liver and other large organs concerned in digestion, by limiting the production of bile. Toxins are absorbed into the blood from the throat and make the system generally susceptible to "cold," with resultant congestion and stagnation of the stomach, pancreas, bowels, kidneys and spleen.

To emphasize the importance of bile in digestion, I need only to say that, without it, no fats could be digested, and it is also probable that the lack of bile in the intestinal canal increases the tendency to constipation, which in its turn undoubtedly increases the tendency to and severity of the sick headache.

Now, in just what way does indigestion produce sick headache? I believe that a failure in drainage of the stomach (and also gall-bladder) is the immediate exciting cause, because, undoubtedly, decomposing stomach contents could do little harm if they escaped into the bowel and (especially if mixed with bile) were hurried on, down the intestinal canal, and not absorbed. It is probably true that the failure in drainage of the stomach is in most cases brought about by a more or less chronic narrowness or sudden spasm of the pyloric sphincter. The reason for this would be twofold; either especial acridity of the bile, or acids of decomposition arising in the stomach.

It is as though the pylorus was closed by nature to guard the stomach from the entrance of bile as well as to guard the bowel from the influx of decomposing stomach contents. Neighbors putting up a common gate to prevent contamination from each other.

When this pyloric closure becomes an established fact, absorption of the decomposed stomach contents (probably mixed with some bile which had already gained admission into the stomach) begins promptly, and thus we have the sick headache which may go on for hours or days, to be relieved by emesis or catharsis and which is essentially the symptomatology of a bile poisoning.

Now, if emetics or cathartics were a remedy (an unfailing remedy) there would be very little use for this article, the purpose of which is, to suggest something that is an improvement upon either or both. In the first place, an emetic, to be curative, must be profound and thorough. This is impossible, many times for the reasons that the nerves having to do with the production of stomach drainage are more or less paralyzed from the action of the poison of the stomach contents and so fail to respond thoroughly to the action of the emetic, at least until after repeated attempts which, needless to say to any who have had sick headaches, are almost unbearable, in view of what the patient is already being subjected to. On the other hand, a cathartic is likely to fail for the same reason, the cathartic simply lying in the stomach and further embarrassing the patient by its addition to the general gaiety.

The spasm of the involuntary muscle of the pylorus being then complete and the stomach nerves which have to do with emptying that organ being paralyzed or unable to perform their function, the question becomes one of forcibly emptying the stomach if such a thing might be possible.

Usually, sick headache comes on at night. The patient goes to bed with a heavy, lumpy sensation in the stomach, and feeling more or less certain that digestion is not proceeding. It will not be long until the pylorus is closed. Later that night, he awakens with a headache —probably after a succession of terribly distressing dreams. He can feel, besides, the growing nausea, the rapid thumping of his heart, and, if he analyzes his feelings, he also feels that his arterial blood vessels (especially the carotids) seem contracted, rendering the sound of the heart impulse plainly audible. He may hear other noises. No position he may assume will diminish the growing intensity of this headache and the increasing nausea. If he drops off to sleep, he awakens only to find, as a rule, that the condition has actually increased, which, usually in spite of the "antiheadaches," emetics and cathartics, it continues to do until, at length and after perhaps days of untold suffering, nature rises supreme and produces thorough emesis, or the muscular spasm of the pylorus wears itself out and the contents of the stomach escape into the duodenum.

It is to describe a procedure of emptying the stomach that I have written this article. Necessarily, it is mechanical or, since I do not use the stomach tube, let us say manual.

You will remember that the stomach normally empties into the duodenum to the right, an inch or an inch and a half from the center of the pit of the stomach.

Therefore, let the patient who is apprehensive of a sick headache lie, when he retires, on his right side, thus facilitating the natural drainage of the stomach. Using his left hand, he now places the ball, or "heel", of his hand palm down firmly upon his abdomen, about three inches to the left of the umbilicus. The hand, still maintaining its firm pressure and slightly increasing it, is now moved upward and to the right, halting only when the "heel" of the hand brings up against the costal cartilage to the right of the sternum. The manual pressure, having squeezed the contents of the stomach up against the pyloric spincter, the same being tightly closed, is now steadily maintained while one would count fifty or sixty respirations or for a space of three or four minutes. This may be maintained longer in obstinate cases, the object being, of course, to overcome the nervous spasm in the pylorus by pressure. Sometimes it requires more time than at others. At any rate, one at length feels the stomach empty itself, which process is occasionally signified by a gurgling of the semifluid contents of the stomach.

This brings relief, but it is better to repeat the process several times, making assurance doubly sure. If, in spite of this preventive measure, the patient still awakens with the headache, the same manual maneuver may be used with a great deal of assurance of stopping the headache.

Before the compressing hand is lifted from the pit of the stomach, the fingers of that hand are brought down firmly over the gallbladder which, it will be recollected, drains

toward the left. The "heel" of the hand is now lifted and the fingers, still deepening their pressure, move slowly over to the pit of the stomach, and the treatment is complete.

Considerable evidence has accumulated in my practice that socalled "nervous" headaches, which have hitherto been considered as something separate and apart from gastric toxemic conditions, are in reality to a considerable extent related to the ordinary sick headache, since they, too, seem to respond nicely to the treatment just described.

On the other hand, there is one type of sick-headache in which I have failed to accomplish relief by the use of manual expression of gastric contents, and this is the type in which there has been a general systemic invasion of bacilli of the Friedlander type or of the micrococcus catarrhalis.

Caution should be exercised by a patient knowing himself to have stomach or duodenal ulcer or any disease of either organ likely to result in perforation.

The advantages of the method are:

1.—No medicine or other appliance is necessary other than the human hand—the left hand if the patient be treating himself.

2.—It is effective but does not increase the patient's discomfort.

3.—This maneuver is not used nor has it ever been used by any school of socalled "physiotherapeutic" methods.

4.—It is entirely harmless, ordinary precaution being observed.

5.—It tends to permanently cure the patient of sick headache.

6.—The affection being more painful than dangerous, the sufferer may relieve himself without the need for calling a doctor, or some special assistant.

J. A. DUNGAN

Greeley, Colorado.

DISPENSARY SERVICE

A brief review of dispensary data prepared by the Council on Medical Education and Hospitals of the American Medical Association. Note: The complete report of "Dispensary Service in the United States" lists all dispensaries by states, with number of patients treated and visits made. This report may be obtained by writing to the American Medical Association, 535 N. Dearborn St., Chicago. The price is $1.00.

THE data presented are results of an extensive survey of the dispensaries, outpatient departments, clinics and other medical institutions having to do with the care and treatment of ambulatory patients.

According to these data, the number of dispensaries in the United States exceeds 4000. Of the 3944 dispensaries listed, 935 are outpatient dispensaries which provide general medical and surgical service for their patients, while 3009 are special dispensaries such as those for tuberculosis and venereal diseases; mental hygiene and baby and child clinics; dispensaries of eye, ear, nose and throat and orthopedic hospitals; dispensaries connected with industrial plants; out-patient departments to United States Marine and United States Veterans' Hospitals and relief stations. Among the 935 general dispensaries are 678 out-patient departments of general hospitals, and 257 independent general dispensaries.

1. General Dispensaries

The importance of general dispensaries to the public is indicated by the fact brought out in the statistics that these 935 institutions handled 3,733,759 patients during the year who, during that time, made 11,642,707 visits. Including a reasonable estimate for the seventy-five general dispensaries known to exist but from which reports are not received, these figures would be increased to 4,500,000 patients and 13,500,000 visits.

New York State has the largest supply, 163, followed by Pennsylvania with 136, Massachusetts with 74, California with 56, and Illinois with 47. In regard to the numbers of patients cared for, New York naturally leads with 1,193,277, followed by Pennsylvania with 537,438; Massachusetts with 268,775; California with 193,920, and Illinois with 177,068.

Reports received from special dispensaries show that, although on the average they cared for smaller numbers of patients, at the same time, the patients, as a rule, made larger numbers of visits. An estimate based on definite reports which were received from the majority, indicates that all the special dispensaries, excluding special departments of general dispensaries, cared for a total of 3,750,000 during the year who, during that time, made approximately 16,000,000 visits.

SOURCE OF FINANCIAL SUPPORT

Reports on the source of financial support received from 651 of the general dispensaries show that 377, or 58 percent of those reporting, receive some financial support from patients; 223, or 34 percent, from endowments; 224 receive gifts; thirty-one get county aid;

TABLE 7. — FINANCIAL SUPPORT OF GENERAL DISPENSARIES

	Outpatient Departments		Independent Dispensaries		Totals	
	No.	%	No.	%	No.	%
Number reporting financial support	494	....	157	....	651	....
Source of financial support:						
Endowments	185	37	38	24	323	34
Patients	324	66	53	34	377	58
Gifts	154	31	68	44	222	34
County aid	20	4	11	7	31	5
City aid	45	9	45	29	90	14
State aid	50	10	13	8	63	10
Federal aid	3	6	2	1	5	7

ninety get city aid, and sixty-three get state aid.

The out-patient departments of hospitals are more fortunate than independent dispensaries in having endowments and in getting contributions from patients. Thirty-seven percent of the out-patient departments reported endowments, as against 24 percent of the independent dispensaries; and 66 percent of the out-patient departments collect something from patients, as against 34 percent of the independent dispensaries. The majority of out-patient departments that reported endowments probably meant that the hospital, not the out-patient department, as such, was endowed. In securing financial aid from city, state or federal government, the independent dispensaries run ahead of the out-patient departments.

The total number of venereal disease clinics known to be in existence in the United States in 1922 is 831. This includes the clinics for venereal diseases only, also those held in the out-patient departments of hospitals, and in connection with other general dispensaries. Of the 831, there are 344 (41 percent) that are conducted as departments of general dispensaries.

With the office methods at present used by many dispensaries and clinics, it is impossible for them to supply accurate statistics regarding the attendance by venereal patients. This applies especially to general dispensaries, at least half of which treat their venereal patients in connection with their department of dermatology, gynecology or general medicine, and do not segregate the figures for the venereal cases. Also many reports could not be included because they were incomplete or were confused in the use of such terms as "number of patients," "number of visits."

WORK DONE IN 1921 BY 373 VENEREAL CLINICS

	Clinics Reporting	Patients for Year	Visits for Year	Average Visits per Patient	Av. Patients per Clinic	Average Visits per Clinic
Clinics for venereal diseases only	207	172,252	1,134,675	7	832	5,482
Venereal disease clinics in out-patient departments of hospitals	123	93,810	666,025	7	762	5,415
Venereal disease clinics in independent general dispensaries	43	22,213	120,386	5.4	517	2,800
Total	373	288,275	1,921,086	6.7	773	5,150

OBSERVATIONS

Some of the main facts that have been brought to light in connection with the survey are:

1. There is a steady increase in the number of patients seeking treatment in general dispensaries.

2. There has been an unprecedented increase since the war in the number of special clinics and dispensaries, such as those for tuberculosis, venereal disease, mental hygiene and child hygiene.

3. There is great need for individualized study and treatment of dispensary patients, to counteract what seems to be a prevailing tendency to routinization.

4. There is need of a closer bond between the out-patient service and the other service of hospitals, and this will be best met by having the hospital and the out-patient staffs identical and by having unified records.

5. In the matter of finances there is an increasing tendency to charge nominal fees, thereby placing part of the cost of an institution on the patient.

6. A general increase is noted in the use of social service workers to see that patients continue their treatment, and to investigate their social and financial status so as to prevent pauperizing.

7. The difficulty of securing satisfactory data is increased by the inadequacy of clinical and office record systems in a large number of institutions.

8. There is a great and increasing amount of educational work, especially the teaching of interns, medical students, graduates and pupil nurses.

ALL the wild ideas of unbalanced agitators the world over in their ignorant and pitiable quest for happiness through revolution, confiscation of property, and crime, can not overthrow the eternal truth that the one route to happiness through property or government is over the broad and open highway of SERVICE. And service always means Industry, Thrift, Respect for Authority, and Recognition of the Rights of Others.—W. G. SIBLEY.

What Others are Doing

NEW TREATMENT FOR NEUROSYPHILIS

In *Revista Médica Veracruzana* (Feb. 1, 1923), Dr. Angel Brioso Vasconcelos, writes on his experience with a new treatment for neurosyphilis by "spinal drainage without rachidial puncture," as suggested by Drs. Corbus, O'Conor, Lincoln and Gardner (*Jour. Am. Med. Ass'n.*, Jan. 28, 1923). Dr. Vasconcelos' article can be summarized as follows:

The new method consists of injecting intravenously, 100 Cc of a 15-percent solution of sodium chloride (he uses 12½-percent solution for precaution). By this means, part of the Cotugno's fluid is absorbed by the blood plasma and, when the production of a new fluid begins, six or seven hours later, an intravenous injection of the arsenical employed is made. (He uses neoarsphenamine.)

Dr. Vasconcelos treated, in 5 months, 11 patients with neurosyphilis. Three of them with general paralysis, two with tabes and paralysis, three tabetics and three with other forms of neurosyphilis. Two of the patients neglected the treatment and two others were too recent to judge the results. The seven remaining patients improved greatly in three months. One tabiparalytic, with complete anterograde and retrograde amnesia, "experienced a spiritual resurrection." Another patient with fulgurant pains has not had them again. A tabiparalytic, suffering with various paresthesias, has returned to work and is said to comprehend that he was insane. In all cases he could observe, Lange's reaction was always less severe after treatment.

Vasconcelos employed, as an adjuvant, intrarachidial (intraspinal) injections of form ⅛ miligram to 2 miligrams of neoarsphenamine dissolved in 30 Cc. of the cephalorachidian (cerebrospinal) fluid, twice a month. Also he used some bismuth salts, such as Muthanol and Trepol, but he attributes his success to the injection treatment, since some of the cases had been treated before unsuccessfully with bismuth salts and even with the intraspinal injections.

It is presumed that nephritis is a contraindication for the use of saline solution. To avoid any induration of the vein where the solution was injected, he used a fine needle, making the injection of the 100 Cc. in about 20 to 25 minutes. However, even with this precaution, he occasionally observed sclerosis of the vein.

An interesting point: Saline injections provoke an abundant emission of clear urine, which fact seems to prepare the organism for the tolerance of the arsenical injection.

INTRAVENOUS THERAPY IN GENERAL PRACTICE

In the *Medical Review of Reviews* (July 1922), Dr. John H. Frick recounts, in condensed abstract, his experiences with the intravenous administration of certain potent remedies which have rendered splendid service and aided him, often, in relieving obstinate and long-standing cases of serious illness. He employs more particularly sodium salicylate, sodium iodide and sodium cacodylate, presenting the following summary:

"As the result of 10 years' use of the intravenous method of administering drugs, I find the following:

"1.—Sodium Salicylate—1 to 2 Grams dissolved in 20 Cc. of sterile water, given every 8 to 12 hours, to be very effective in: (a) a streptic infection; (b) all types of pneumonia; (c) pleurisy with or without effusions; (d) generalized infections—socalled rheumatism, either muscular or articular.

"2.—Urotropin, in doses of ½ to 1 Gram dissolved in 10 Cc. of sterile water, either given by itself or combined with 1 Gram of sodium salicylate, in which case 20 Cc. volume is necessary, is effective in (a) pyelitis; (b) otitis media; (c) mastoid involvement; (d) pneumonia and pleurisy with effusion.

"3.—Sodium iodide, in doses of from 1 to 2 Grams dissolved in 20 Cc. of sterile water, given every 8 to 12 hours in acute cases, or in chronic cases every third day or until signs of iodism appear, is especially effective in (a) chronic arthritis; (b) Berger's Disease; (c) indolent ulcers; (d) asthma; (e) chronic headache; and in diseased conditions in which there is likely to be as the basis of the trouble an increase of connective tissue in the blood vessels or the vital organs of the body or in or about the joints.

"4.—Two-percent sodium citrate solution in 8 ounce volume, given intravenously every third or fourth day, is practically a specific for endarteritis obliterans when not too far advanced.

"5.—Sodium cacodylate in from ½ to 1-Gram dosage dissolved in 10 Cc. of sterile water, given intravenously every third or fourth day, is an excellent remedy in most forms of anemia and, when so employed, in every instance increases the hemoglobin as well as the red-cell count."

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We have before now recorded it as our opinion, in which we are supported by some competent observers, that the undoubted disadvantages and difficulties of intravenous medication can be obviated while the same assurance of prompt absorption into the circulation can be given and, therefore, the same clinical results can be expected—by practicing intramuscular injections. We have found it quite feasible to inject reasonably large doses of the drugs mentioned by Doctor Frick and of other remedies by intramuscular injection without observing any disadvantages. The clinical results were invariably satisfactory.

We do not mean to suggest that intravenous injections should be discarded. There are occasions when this method offers the best possible mode of procuring prompt results. However, the physician who is not fully conversant with the technic, especially in cases where there exists a tendency to connective-tissue proliferation, will find intramuscular injections quite satisfactory. It is to be feared that intravenous injections are given sometimes rather uncritically and under circumstances when other methods would do perfectly well. We should like to see them limited in accordance with proper indications and should wish to have the method protected from becoming a fad that is followed blindly.

DIGITALIS AND KINDRED DRUGS

Discussing the problems of the "edematous cardiopath", by which we assume the author means a patient with organic heart disease who has periodic attacks of edema or anasarca, Dr. Joseph M. Patton (*Ill. Med. Jour.*, Feb. 1923) refers, as a matter of course, to the employment of digitalis and of other representatives of the digitalis group of drugs. Patton does not agree with the view that foxglove itself is the only one of this group that s useful; nevertheless, it is the most reliable and efficient one.

The author denies that there is such a thing as "the best preparation of digitalis"; claiming that "a carefully standardized preparation made from a properly assayed sample of the leaf will yield uniform results whether used as a tincture, infusion, powder or glucoside ... with certain variations, depending on variable qualities of plant specimens which may affect standardization and on variable human reactions which do not follow those of laboratory experimentation." He continues: "Assimilation and elimination being equal, we should obtain definite results from any standard preparation of digitalis, but these conditions are variable and thus specific reactions based on definite dosage per kilogram body weight of the individual are not always obtainable. Moreover, individual idiosyncrasies, in reaction or the lack of it, to certain preparations of digitalis are frequently met with and must be dealt with empirically."

The important point, of course, is, to secure the digitalis effect and it is by the effect on clinical symptoms that the dosage must be regulated as also by the improvement in rate, rhythm, character of the pulse, relief of dyspnea and increase of kidney function. Patton questions the advisability of rapid digitalization of the heart in one or two days except in cases of emergency. One should take from four to six days to get the heart thoroughly under the effect of digitalis and then modify the daily dosage as determined by symptomatic conditions. If increase in kidney function is then negligible and edema shows no improvement, the kidney requires special stimulation.

Strophanthus, while lacking the punch to control a dilated heart that is characteristic of digitalis, nevertheless gives very satisfactory results in selected cases, especially in mitral stenosis with a tight mitral opening. Even though dilatation be sufficient to result in the characteristic edema about the loins and the ankles and arrhythmia be marked and persistent, strophanthus will often give better results than digitalis, which may increase the auricular arrhythmia and result in a digitalis block. In these cases, the ventricle disposes of all the blood it gets, but in those in which the mitral is rough and rigid, but the opening patent, the ventricle develops a hyposystolic state which strophanthus has not the power to relieve.

The tincture of strophanthus should be employed, administered in freshly made laurel-cherry water with a couple of drops of dilute hydrocyanic acid to obviate gastrointestinal disturbance. Strophanthine should be used

only intravenously and for emergencies. It acts more quickly than digitalis, and not more than two or three doses are advisable.

As for caffeine, Patton has seen the best results in cardiorenal lesions with moderate dropsy and characterized by lower kidney function. Here, a freshly made salt may be given, using equal parts of sodium benzoate and alkaloid caffeine dissolved in distilled water. This gives approximately a forty-two percent salt and the dose is arranged to equal about two grains of the benzoate of caffeine.

When the kidney function requires special stimulation, the theobromine preparations are probably employed most generally. The sodiosalicylate of theobromine is useful, although at times disturbing to the stomach. It should be given in 20-grain doses, every four hours, for six doses, and then intermitted for a few days. If the effect of one course is good, it may be maintained when the kidneys slow up by giving 20 grains as a daily dose. It is best given in distilled water.

Calomel is a valuable diuretic in some cases. It is of little use given in small and frequent doses. It should be given in 3-grain doses, three times daily for two days—18 grains in all. It is essential that during its administration the bowels should be kept from moving by giving from 5 to 7 drops of the deodorized tincture of opium half an hour after each dose of calomel. The bowels may be flushed out with salts four hours after the last dose of calomel has been taken. When it is impossible or inadvisable to block the bowels for the two days, this treatment should not be used.

Doctor Patton warns against the simultaneous administration of more than one of these agents. He refers to a patient who had collapsed from the very rapid reduction of an extreme dropsy from the administration of diuretin (sodiosalicylate theobromine) and calomel at the same time. By the proper adjustment of the three factors, namely, heart force, arterial resistance and kidney stimulation, he says, one can secure relief of edematous states even in the presence of failing heart and kidney. In extreme cases, it may become necessary, where the blood pressure is too low to secure elimination by the bowels by means of elaterium, jalap and the like, to reduce back pressure on the kidneys just as we relieve an overdistended pleura by removing part of an effusion in order that the vessels may resume absorption, incision of the skin of the legs to reduce the local tension of a chronic edema to a point where circulation may be reestablished, sweating by hot baths or jaborandi where uremic conditions seem imminent, all more or less useful measures which are called for in those cases where the kidney is mainly at fault and the heart is only contributory to the edema.

THE LAXATIVE ACTION OF YEAST

In a recent issue of *The American Journal of Physiology* (March), there appeared an article on the laxative action of yeast, with a discussion of a fairly representative literature from American, English, French and German publications. We reproduce the summary and conclusions which are of interest to our readers. The summary:

1.—The existing literature on the effectiveness of yeast as a laxative is conflicting, some authors finding it an important remedial agent in enteritis (diarrhea), others reporting relief from constipation.

2.—By true laxative action in this investigation is meant either an easier evacuation on account of stimulation to peristalsis or greater bulk of residues.

3.—The plan of investigation followed contemplated the use of both human and animal subjects. In the first series, ten students were placed on a nearly constant diet, alternately in periods with and without yeast. The stools were collected, samples dried to constant weight, and percentage of moisture and solids computed.

4.—In the second series, five human subjects were placed on a more rigidly constant diet and, in the same manner, periods with yeast added, alternated with periods in which no yeast was used. In this series, not only were the stools examined with reference to the percentages of water and solids, but were analyzed also for total nitrogen and phenols. The urine also was analyzed for total nitrogen, phenols, both free and conjugated, and uric acid. Indican was determined qualitatively.

Two dogs were used for the third series, in order to eliminate any possible psychic effect and in order to impose an absolutely constant diet. Nitrogen output was studied as a measure of protein utilization. The conclusion:

1.—In the first series, no evidence was obtained of increased moisture content as the result of taking yeast. There was, however, a measurable increase in the bulk of stool, which persisted for several days after the ingestion of yeast was stopped. Several of the subjects were compelled to evacuate two or three times a day when three cakes of compressed yeast

(one before each meal) were taken.

2.—In the second series, a laxative effect is proved by increased weight in the great majority (13 out of 15) of the tests, and increased moisture in two-thirds of the tests. In the great majority of the tests also there was not only an increase in the absolute elimination of nitrogen, but an increase also in the percentage of nitrogen in the dried stool. Evidence here is found for the utilization of yeast protein, as also in the values for total nitrogen in the urine.

3.—The estimation of phenols in the feces and urine indicates that putrefaction is somewhat diminished by the ingestion of yeast.

4.—The uric acid of the urine shows a marked increase when three cakes of compressed yeast were eaten each day and becomes even higher in the control period immediately following.

5.—Boiled yeast does not produce so much laxative effect (moisture and weight) as raw yeast. It is more easily digested than raw yeast.

6.—Dogs can digest and utilize yeast protein to such an extent as to obscure any tendency to increase the excretion of nitrogen by the bowel. Four cakes of yeast gave a marked laxative effect (softer movement) when fed to dogs of 9 to 10 kilos on a perfectly constant diet which otherwise was slightly constipating.

CONTRIBUTORY FACTORS IN POSTARSPHENAMINE DERMATITIS

John H. Stokes and Edward P. Cathcart (*Arch. Dermatol. and Syphilol.*, Jan. 1923) say that, in 44,000 injections of arsphenamine, which have been given in the Section on Dermatology and Syphilis of the Mayo Clinic, only thirty-eight cutaneous reactions of various types have been observed. From a careful study of thirty-three of these cases, the writers are led to believe that arsphenamine is only one of several factors in many cases of postarsphenamine cutaneous reaction and dermatitis. There seems to be an induced state of hypersensitiveness from focal and intercurrent infections. The evidence of this is as yet merely clinical and circumstantial, yet rather suggestive and of some practical bearing on prevention and treatment. Arsenicals in general are by no means essential to the production of typical and severe dermatitis of the exfoliative type. One of the worst cases ever seen by Stokes was the sequel of a single injection of mercuric salicylate and the mere painting of iodine on the skin has been responsible for other severe and extensive cases.

AN UNUSUAL CASE OF ENURESIS

The Weekly Bulletin of the Department of Health (New York) (May 12), contains a report of an unusual case of enuresis observed in the New York Municipal Sanatorium. The report is as follows:

M. C., a girl patient, 15 years old, admitted August 16, 1921, of a "nervous type," suffered from involuntary micturition once or twice a week. It had been regularly the same at home, as far as she remembered, and had persisted in spite of all kinds of remedies tried. She was much mortified by, and anxious to be relieved of, the condition. The ordinary precautions employed here were, to prevent distention of the bladder, and no liquid food was permitted in the evening, the patient being awakened during the night for the purpose of emptying the bladder. This proved ineffectual. Her urine was of acid reaction, but not hyperacid. The nocturnal incontinence was accepted as a manifestation of a nervous condition.

On February 11th, she appeared in the nose and throat clinic, complaining of sore throat, and, on examination, an elongated uvula, touching base of tongue and epiglottis, was seen. The sore palate having been relieved by swabbing with hydrogen peroxide, the feeling of local discomfort remained with a sensation of a foreign body, tickling in the throat, and an irritating cough more marked at night.

On February 25th, the extremity of the uvula, one-third of its length, was amputated, and the feeling of discomfort vanished. The uvulotomy, however, had another result, of which only the possibility had been anticipated; one more bed-wetting occurred ten days later, but that was the last, though several months have now gone by. This relief permits of the inference that the irritation caused by the elongated uvula resulted in the nocturnal incontinence of urine, although, undoubtedly, a general improvement in health might, at least, have contributed.

No psychic element enters into the case, as not even a hint was given to patient that the operation might end her bed-wetting. Of her own accord, she wrote to her mother, three weeks after the excision: "The doctor has cut something in my throat, and I don't wet the bed any more."

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Of course, it would be reckless to conclude that every case of persistent enuresis is due to an elongated uvula. However, it does show that, in many cases, the relaxation of the sphincter may stand in relation to an irritation in some distant locality of the organism. We have here an illustration of the truism that nothing abnormal should be overlooked in studying a patient with a stubborn lesion, since a labile nervous system may be kept irritated by the most improbable things.

Among the Books

BASSLER: "DISEASES OF THE STOMACH"

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D. Fifth Edition, Revised and Enlarged. Illustrated. Philadelphia: F. A. Davis Company. 1022. Price $8.00.

One of the compensations of the Reviewer's work, which sometimes is tedious, is that he is obliged to do a good deal of reading and thus has an opportunity, from time to time, to refresh his memory with regard to physiological processes that should be perfectly familiar to all of us but the details of which are apt to disappear below the horizon of consciousness. Thus, we were much interested in reviewing in Bassler's textbook the physiology of deglutition and of digestion. It is hardly proper in a review to enter into this or any other subject in detail, but it might be mentioned that, on page 28, a splendid argument against the raw-food craze may be found. It also may be a good thing to have the fact recalled that foods remain undisturbed in the fundic end of the stomach for a long time and thus escape mixture with the acid of the gastric juice; this is of importance in completing salivary digestion of the starchy foods and may afford an excuse for the habit of chewing gum after meals which, of course, acts merely by producing an additional supply of saliva, while the pepsin or other substance contained in it can not be said to possess any merit.

Here is a statement of importance (p. 33): "Normal human gastric juice is equal in total acidity to the maximum acidity reported by clinical observers for socalled hyperacidity in man, and there is no evidence that the gastric glands under any pathological conditions are able to or do secrete of higher than normal acidity. Moreover, the presence of gastric juice in the stomach of full acid strength leads by itself and immediately to no untoward symptom." It follows, of course, that gastric hyperacidity is produced not so much by an excessive acidity of the gastric juice as rather by the formation of acid, through fermentation or otherwise, in the gastric contents. This may afford a useful therapeutic hint.

Bassler's textbook on the stomach is too well known to be more than announced in a new edition. We may add that the book is dedicated to the practitioners of medicine whom the author deservedly designates as *Optimi Amici Humani Generis.*

"HYGEIA"

Hygeia is called "A Journal of Individual and Community Health" and is published by the American Medical Association, at twenty-five cents a copy, $3.00 for a one-year's subscription.

The May issue, which is before us, contains an article on "Hay Fever: The Early Spring Type," by I. Chandler Walker. Mr. Samuel Hopkins Adams tells, under the title "Our Favorite Murderer," about the crimes committed by the mosquito. His article is followed by one "Concerning Mosquito Control Measures" written by L. O. Howard. Dr. C. S. Butler discusses the diseases caused by parasites and their geographic distribution. Dr. E. V. McCollum asks, "Is There a Nutrition Problem, and If So, What Kind?"

These are a few of the splendid leading articles in this issue of *Hygeia* which contains, in addition, several instructive editorials and much other reading matter that is of service to the thinking layman. Doctor, you should subscribe for *Hygeia* and place it on your waiting-room table. You also should encourage your clients to subscribe for it and to read the succeeding issues as they appear.

VAUGHAN-BURNHAM: "MINOR SURGERY"

A Text-Book on Minor Surgery. By John C. Vaughan, M. D., and Athel Campbell Burnham, M. D. Illustrated. Philadelphia: Lea and Febiger. 1922. Price $7.75.

This book is dedicated to The Nurses of America without whose patience, skill and devotion to duty surgery could not have reached its present high level, and to one Ella Holcomb whose kindly ways and love of humanity brought comfort and courage to thousands of sufferers during her long service at the Vanderbilt Clinic.

"During the last decade, while surgery has

shared in the great advance made by all the sciences, one of its branches, *minor surgery,* has far outstripped the others. This has been caused by a great number of factors. The industrial clinic, the workers, compensation insurance, the use of local anesthesia, and the realization of the far-reaching results and complications of poorly and improperly treated minor injuries have been responsible for the prodigious strides of this branch. The disfiguring scars of burns, the stiff fingers, due to neglected tendon-sheath infections, and other such conditions so important to the individual both socially and economically have left their indelible imprint upon all surgeons, stimulating them to a keener interest in this formerly unimportant division of surgery.

"In the chapters which follow, an attempt has been made to give those surgical procedures which are simple and efficient. In their selection, it has always been borne in mind that, while complicated treatments may yield better results in the hands of their originators, complete failure has often met the attempts of those not skilled in the involved technic."—From the Preface.

"ULTRA-VIOLET ENERGY"

Ultra-Violet Energy in Dentistry. Biophysical Studies. By Dr. A. J. Pacini. Chicago: Victor X-Ray Corporation. 1923.

"Ultra-Violet Energy," we are told in the introduction of this booklet, "destroys the virulency of the attacking organism. It increases the physiologic capacity of cellular functioning tissues. In addition, it induces an increased metabolism which takes on a renewed assimilation of calcium in the case of those cells, like alveolar cells, whose metabolism has to do with calcium. It diminishes pain. And, upon all of these specific characteristics depends its efficient usage in the treatment of those many oral pathologies in which infection is the pristine cause."

This will give some indication of what may be expected from the very interesting and instructive text of this handy little book of sixty-eight pages. The mere fact, that it deals with the use of Ultra-Violet Energy in dentistry, does not need to deter physicians from studying it. They will find it of service in many respects.

"THE ELECTRON"

The Electron, a monthly bulletin of electro-medical and physical therapeutic progress, is a house organ published by the McIntosh Electrical Corporation, in Chicago. The March issue, which is before us, constitutes a special tonsil number and contains several articles on the conservative treatment of diseased tonsils.

There is another reaction due against the wholesale "massacre" of the tonsil. It will be recalled that, in 1912, J. N. MacKenzie (*Md. Med. Jour.,* June 1912) remonstrated vigorously against the wholesale amputation of tonsils which many times was undertaken without justice. Since then, other voices have been heard, although they were drowned for a time in the clamor of those who condemned the tonsils as being guilty of constituting a focus of infection, usually without a sufficient hearing.

In this issue of CLINICAL MEDICINE (p. 406), there appears an article describing a non-surgical treatment of diseased tonsils which is believed to be as effective as amputation for the destruction of a possibly existing infectious focus and which has the advantage of avoiding destruction of the peritonsillar tissues, notably the pillars and the capsule. High-frequency treatment and electrocoagulation are further superior to surgical methods in that they do not open the gates to outside infection and that the patient is more ready to submit to them than to the knife.

However, we were talking of the McIntosh house organ. This is an interesting periodical and can be obtained from the McIntosh Electrical Corporation, 223-233 N. California Ave., Chicago, Ill.

PETERS: "APPLIED CHEMISTRY"

Applied Chemistry. An Elementary Text Book for Secondary Schools. By Fredus N. Peters, Ph.D. Illustrated. St. Louis: C. V. Mosby Company. 1922. Price $3.50.

Here is a book which, while intended for secondary schools, will be consulted advantageously by physicians. It happens frequently enough that we are called upon to look up some chemical problem or other and the simpler textbooks like the one before us will make our search easier and more attractive than it would be if we were to resort to abstruse, highly technical treatises.

McCOY: "RADIOGRAPHY"

Dental and Oral Radiography. A Textbook for Students and Practitioners of Dentistry. By James David McCoy, M. S., D. D. S. Illustrated. Third Eidition. St. Louis: C. V. Mosby Company. 1922. Price $3.00.

That radiography is essential in the prac-

tice of dentistry, the author declares, is no longer a debatable question. He might have extended the essential character of radiography to the practice of medicine and surgery in all its phases. To the physician, the illustrations of radiograms of teeth, and especially their explanations, are interesting because we are called upon so often to pass upon such radiograms when it is a question of referring to the dentist for certain work that is, in our opinion, called for. We are under the impression that this book is as useful to the physician as it is to the dentist.

WITHERBEE-REMER: "X-RAY DOSAGE"

X-Ray Dosage in Treatment and Radiography. By William D. Witherbee, M. D., and John Remer, M. D. New York: The Macmillan Company. 1922. Price $1.75.

The method of dosage described in this book, the authors inform us, has been found practical by them in clinic and private practice during four years' use. They regard it as safe within certain limitations, namely, between a three and ten-inch spark gap and between six and twenty inches distance. The subjects treated in the eight chapters in the little book are as follows: Unfiltered X-Ray Dosage; X-Ray Burns in Radiography; Filtered X-Ray Dosage; Principles of X-Ray Burns; The Cause of X-Ray Burns; The Treatment of Focal Infection of the Throat by X-Ray Compared with Surgical Removal of Tonsils and Adenoids; X-Ray Treatment of Skin Diseases; X-Ray Technique in the Treatment of Uterine Fibromata Menorrhagia Leukemia and Hodgkin's Disease.

HUMPHRIS: "ELECTRO-THERAPEUTICS"

Electro-Therapeutics for Practitioners. Being essays on some useful forms of electrical apparatus and on some diseases which are amenable to electrical treatment. By Francis Howard Humphris, M. D. Illustrated. Second Edition, Revised and Enlarged. London: Oxford University Press. 1921. Price $7.00.

In this work, the term electrotherapeutics is used in its widest sense, not restricting it to where electricity is the curative factor but also where it is merely the agent, as in radiant heat and in light therapy. Even vibratory massage and the galvanocautery are mentioned, since these means are actuated by the electric current.

This is a handy and practical treatise on the subject of electrotherapeutics which is constantly gaining in importance. Among the uses of electricity that are discussed, we may refer especially to the chapters on electricity in dermatology, in the treatment of pathological blood pressure, in the treatment of obesity; not that these exhaust the titles, the book being really quite complete.

One chapter which is particularly attractive, for its potential and actual usefulness, is headed "Lessons from Failures". It is not only in electrotherapeutics that we can learn from our mistakes, but in all our efforts and all our studies it is well to do like the optimist who uses lemons to make lemonade; that is to say, we can turn our mistakes to good advantage by applying the lessons accruing therefrom.

ROLLIER: "HELIOTHERAPY"

Heliotherapy. By A. Rollier, M. D. With the Collaboration of A. Rosselet, D. Sc., M. D., H. J. Schmid, M. D., and E. Amstad, M. D. With Forewords by Sir John Henry Gauvain, M. A., M. D., and Caleb Williams Saleeby, M. D. London: Oxford Medical Publications. 1923.

Rollier's work in establishing the treatment of surgical tuberculous lesions in high altitudes by means of direct sunlight was both fundamental and epochal. It will be recalled that his earliest reports aroused a tremendous interest among tuberculosis physicians and orthopedic surgeons alike. His results were so magnificent, so startling and so definite that his method has come to be acknowledged the world over and that it has been adopted (with necessary modifications) almost generally.

We believe that the book before us is the first complete presentation in the English language by Rollier himself, although numerous reports have been issued by English-speaking physicians who visited his Leysin institution. Rollier's simple and convincing account of his work is fascinating. The Reviewer feels certain that at least every tuberculosis physician and every orthopedic surgeon will want to own and study the book.

PLANK: "ACTINIC-RAY THERAPY"

A Treatise on Actinic-Ray Therapy for Physicians Interested in Physical Therapeutics. By T. Howard Plank, M. D. Chicago: Brown Press. 1921.

The author anticipates the criticism, that he is empirical, by admitting the impeachment freely, while countering: "What therapeutic measure has the medical profession today that did not originate in empiricism?"

The information recorded in this book is almost entirely personal in that it is based on

the author's experiences in his own practice. For that reason, he presents a usable guide to others, in view of the fact that he has been successful in a great many cases and in many diseases, with the method described. He considers actinic rays as an adjuvant, not a complete treatment, for those diseases that he has mentioned. For many of them, these rays are sufficient in themselves.

ROCKWOOD: "PHYSIOLOGICAL CHEMISTRY"

A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, M. D., Ph. D. Fourth Edition, Revised and Enlarged. Illustrated. Philadelphia: F. A. Davis Company. 1919.

This is a useful laboratory guide for the student and for the laboratory technician. It has been accepted favorably for use in class work.

FISCHER: "DISEASES OF INFANCY AND CHILDHOOD"

Diseases of Infancy and Childhood. Their Dietetic, Hygienic, and Medical Treatment. A Textbook Designed for Practitioners and Students in Medicine. By Louis Fischer, M. D. Ninth Revised Edition. Volume I. Infant Feeding and Organic Diseases. Illustrated. Philadelphia: F. A. Davis Company. 1922. Price $6.00.

This latest edition of Fischer's textbook is dedicated to Professor Clemens Pirquet as a tribute for his scientific contributions in pediatrics, and appears in two volumes. The first volume contains six parts: nutrition, the development and hygiene of the infant with diagnostic suggestions; abnormality and diseases of the newly born; diseases of the mouth, esophagus, stomach, intestines and rectum and diseases associated with improper nutrition; diseases of heart, liver, spleen, pancreas, peritoneum, genitourinary tract; diseases of the respiratory system.

The six parts comprising Volume II are devoted to the infectious diseases; diseases of the blood, glands, or lymph nodes and ductless glands; diseases of the brain and nervous system; diseases of the ear, eye, skin, and abnormal growth; diseases of the spine and joints. The last part is given up to various discussions, such as exercise, dietary, laboratory examinations, etc.

On consulting the text here and there, we find that the author considers rickets as a disorder of nutrition. This view has recently been discussed adversely and, in fact, controverted successfully, we believe. It is being shown that rickets, while truly a deficiency disease, is based upon a deficiency in light even more than in certain food factors. We are interested in finding that the author is a confident, yet conservative, user of bacterial vaccines of which he employs both, autogenous and stock preparation. He says, justly, that, for instance, in pneumonia, where time is a factor, it is far better to administer a stock vaccine than to wait for the culturing of the sputum and the preparation of an autogenous product.

The chapter on transfusion, for instance, in atrophic or marasmic infants with faulty metabolism and where no food is taken and there is progressive loss of weight, is highly instructive. The author utilizes the longitudinal sinus for transfusion and for intravenous medication in such babies.

In epilepsy, the author lays stress upon the hereditary factor and also upon the fact that excessive intestinal putrefaction is frequently observed just before the occurrence of the spasm. The Reviewer's clinical experience confirms this and has shown that there is a distinct association between the intestinal poisoning and the epileptic seizures.

It is needless to recall that Fischer's textbook is one of the leading treatises on the subject and that it offers a reliable guide to the clinician.

"MEDICAL CLINICS OF NORTH AMERICA"

The Medical Clinics of North America. Published Bi-Monthly by W. B. Saunders Company, Philadelphia. Price $12.00 per year. March 1923.

The present number of the "Medical Clinics" is the Ann Arbor Number and contains almost four hundred pages of splendid information. The Reviewer was interested in the first article on Hodgkin's Disease of the mediastinal glands and lymphosarcoma and in a clinic showing cases illustrating the use of a high-fat diet in the treatment of diabetes mellitus. Other attractive titles are "Some Contraindications to the Intensive Treatment of Syphilis" (Dr. U. J. Wile); "Those Painful Women" (Dr. Hugh Cabot); "Chorea and Choreiform Affections . . . " (Dr. Carl D. Camp); "Chronic Pancreatitis" (Dr. Phil L. Marsh); "Medical Treatment of Peptic Ulcer with Gastric Retention" (Dr. Irving W. Green); "Tuberculosis of Glands and Bones—Heliotherapy and Quartz Light Therapy" (Dr. Murray Cowie); "Diphtheritic Paralysis" (Dr. Murray Cowie).—There are lots more.

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